FAIRFAX BOULEVARD MASTER PLAN

DRAFT May 11, 2007

FAIRFAX BOULEVARD MASTER PLAN

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

Why a Plan?
Fairfax Boulevard has the opportunity to become a model for corridor redevelopment. Its current condition as a road that caters to pass-through traffic, rather than the needs of the local community does not enhance Fairfax's overall character.

This plan is a comprehensive strategy for growth and redevelopment of the corridor; it seeks to improve the safety and operational efficiency for all modes of travel, while creating a more economically productive address. The plan envisions that Fairfax Boulevard can be more than just improved; it can be one of the most memorable streets in America.

How was this plan created?
"Designing in public", the team of planners, engineers, architects, and economists conducted an open planning process in March 2007 to identify the ideas, needs and concerns of the community; over 500 interested residents and stakeholders participated.

FIRST PRINCIPLES OF THIS PLAN

- Make the Boulevard a 'great walkable street':
  Fairfax Boulevard should be rebuilt according to a design that would transform the corridor into a community asset. The goal is to create a safe and attractive street enhanced by trees while balancing the needs of pedestrians and motorists.

- Allow change on the community's terms, controlling size & scale:
  Future development needs to respect the community's overall vision for the corridor. Revising the existing land development regulations and building with a form-based focus would be the best way to realize this vision.

- Support a mix of uses & destinations:
  The corridor should support not just retailing, car dealerships and hotels, but also housing, workplaces, green spaces, and civic uses; a mix of uses is essential to conquering transportation problems.

- Balance traffic capacity, safety & character:
  Fairfax Boulevard can be transformed into an urban street address that is conducive to a wider variety of economically productive uses instead of the narrow mix of a typical suburban strip; this can be accomplished within an engineering strategy that builds capacity and improves safety.

- Plan for feasible, phase-able pieces:
  Complete transformation of the corridor will not happen overnight, so the plan is designed to be broken down into small components that can be redeveloped as the market demands.

- Enable the market:
  Promoting a variety of new uses will generate significant economic return and a memorable place that can be enjoyed by the Fairfax residents and visitors.

Economics
The economic health of the Boulevard is critical to maintaining the City's quality of life and fiscal self-sufficiency. While the Boulevard is an active commercial street, the corridor is often seen as a declining asset. Fairfax Boulevard is an aging strip-commercial corridor which fails to compete with the new development located just outside of the City limits. Due to this decline in competitiveness, the City realized the need for a plan to guide redevelopment efforts and to bolster the Boulevard's position within the regional economy. The resulting Fairfax Boulevard Master Plan represents a shared vision for the future of the Boulevard which details specific design solutions and a feasible implementation strategy.

Transportation
Engineers recognized a fundamental tension between the need to move large volumes of traffic and the desire to create a walkable environment and 'great street'; the plan calls for balancing this tension by incorporating classic multi-way boulevard concepts for Fairfax Boulevard. A conceptual design is included. A modern roundabout is recommended for Fairfax Circle and other intersection improvements at Northfax and Kamp Washington are included. A street map indicates how to shape the thoroughfare network as redevelopment occurs.

Implementation
The plan lays out a series of steps to be undertaken to realize the vision. First among these is adopting a Form-Based Code.

The Implementation section of the plan spells out future planning tasks, promotional tasks, and a series of funding mechanisms for public capital improvements and private development.

FIRST PRINCIPLES

- Make the Boulevard a 'great walkable street'
- Allow change on the community's terms, controlling size & scale
- Support a mix of uses & destinations
- Balance traffic capacity, safety & character
- Plan for feasible, phase-able pieces
- Enable the market

research & analysis 1

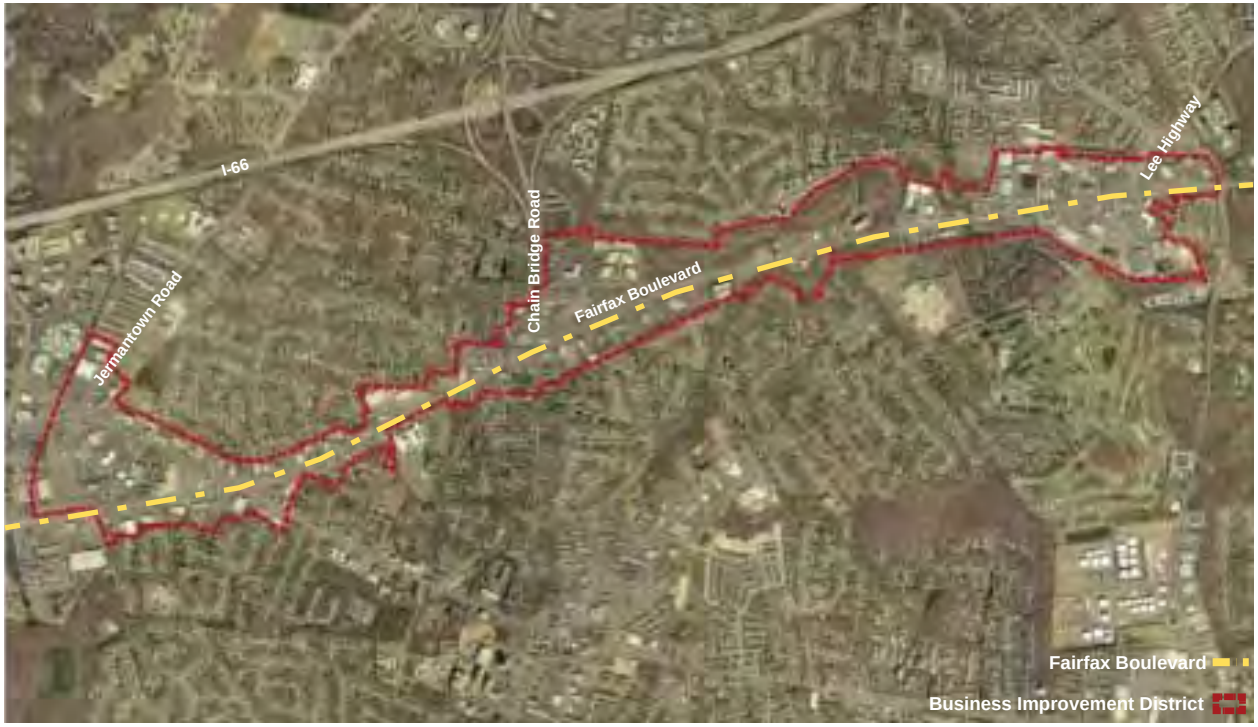
"Fairfax Boulevard is our economic and service corridor in the City."

– Mayor Robert Lederer
March 24, 2007, Hands-on Design Session

Fairfax Boulevard is one of the most visible and economically significant thoroughfares in the Washington, D.C. metrō region. Located in the City of Fairfax, the Boulevard is home to a variety of retail, office, and auto-related establishments. The City relies on the Boulevard as its main commercial core, but also as a primary source of real estate revenue. The economic health of the Boulevard is critical to maintaining the City's quality of life and fiscal self-sufficiency. A diversified economy within the City, and the success of the Boulevard, helps to lessen the tax burden on residents.

While the Boulevard is an active commercial street, the corridor is often seen as a declining asset. Fairfax Boulevard is an aging strip-commercial corridor which fails to compete with the new development located just outside of the City limits. Due to this decline in competitiveness, the City realized the need for a plan to guide redevelopment efforts and to bolster the Boulevard's position within the regional economy. The resulting Fairfax Boulevard Master Plan represents a shared vision for the future of the Boulevard which details specific design solutions and a feasible implementation strategy.

In March 2007 the City and citizens of Fairfax, along with the town planning firm of Dover, Kohl & Partners, gathered to create a plan for the redevelopment of the Boulevard. The planning process began with a review of previous planning efforts, along with a thorough evaluation of the study area. This chapter provides an overview of the physical conditions of the Boulevard; the chapters following describe the charrette and resulting plan.



Aerial view of the study area

Fairfax Boulevard Analysis

The study area defined for the Fairfax Boulevard Master Plan includes the entire Route 50 (Fairfax Boulevard) corridor within the City of Fairfax. Route 29 and Route 50 become one as they enter the City from the east, splitting back into two streets (Fairfax Boulevard, Route 50 and Lee Highway, Route 29) at the Kamp Washington intersection. The study area is bound by Pickett Road to the east and Jermantown Road to the west. The north and south limits of the study area extend approximately 200 feet from the Boulevard. The primary study area includes the limits of the Fairfax Boulevard Business Improvement District, but for purposes of planning the team looked beyond this boundary.

Fairfax Boulevard is 3½ miles long. The Boulevard and its surrounding properties contain today over 120 retail stores, over 30 personal service establishments, two dozen auto dealerships, 18 multi-tenant office buildings, and scores of other uses. In total, approximately 300 parcels exist along the Boulevard, accounting for 449 acres of land (not including rights-of-way, such as roads).

The thorough examination of background information, combined with photographing existing conditions and analyzing base maps, prepared the planning team for creating a workable plan for Fairfax Boulevard.

HISTORY OF THE BOULEVARD

The City of Fairfax was founded in 1805 under the name of Providence at a crossroads near the geographic center of Fairfax County. The City was chosen as the seat of Fairfax County largely because of its central location. Two hundred years later, the City still sits at a regional crossroads, although the original intersection (Main Street and Chain Bridge Road) has been joined by many other important regional crossroads.

Through the 1950s, Fairfax remained a small town in a predominantly rural county. In 1930, Fairfax County had a population of just 25,000 and was only the 27th most populated county in Virginia. Although the county seat, the then town of Fairfax had a population under 2,000 people as late as 1950.

In 1934 the road currently known as Fairfax Boulevard (then Lee Highway) or Route 50 was constructed, connecting the eastern portion of Lee Highway with an area known as Kamp Washington, for its former location as an auto camp in the 1930s to 1950s. The road was billed as a "bypass", allowing motorists to reach Kamp Washington and points west without driving through what is now known as Old Town Fairfax. In the early days of the road, few

Fairfax, 1915

Fairfax, 1951

Fairfax, 1966

Fairfax, 1984

permanent structures or services existed. Even through the 1940s only a handful of businesses operated along the road.

Gradually the economic and social focus of the town began to shift to the new bypass. Fairfax High School (now Paul VI Catholic High School) was built in 1936. The Fairfax Theatre (at what is now a Toyota dealership) opened in 1947 and the first shopping center, Fairfax Shopping Center, was built in 1950.

Population in both the City and County exploded in the 1950s and 1960s. In 1961, the town of Fairfax incorporated as a City and become independent of the surrounding county. Between 1950 and 1970, the population of Fairfax City increased by over 1,000 percent to roughly 22,000 people. Over the same period, the surrounding county saw its population increase to nearly one-half million, and became the state's largest jurisdiction in 1970.

**For more information on the history of Fairfax and the Boulevard, please visit the Virginia Room at the Fairfax City Regional Library.*

A marketing postcard for Kamp Washington


Kamp Washington area, 1937


Vincent's Diner, 1952


Ed's Bait Shop, 1967


Fairfax Circle, 1927


Fairfax Circle, 1940s


Fairfax Circle, 1970s

The photographs on this page are from the Virginia Room, Fairfax City Regional Library.

HISTORICAL ECONOMIC FORCES

Ever since the road was built in the 1930s, development and redevelopment along Fairfax Boulevard have mirrored prevailing economic trends. Today the Boulevard is economically varied, with a mixture of retail, office, hotels, restaurants, automobile dealerships and other uses. Such variation took decades to occur, and included spurts of development and expansion in a variety of economic sectors. Several of these are described below.

HOTELS AND MOTELS

Lodging became a burgeoning need in the 1930s through the 1950s as Americans became increasingly mobile. Tourist camps, where travelers rented a small amount of land to fit a car and tent, became common in the 1930s to serve travelers looking for affordable accommodations. One such establishment, Kamp Washington, was located near what is now the intersection of Fairfax Boulevard and Main Street. The name, Kamp Washington, is still used today to refer to the general area.

Travelers' preferences quickly evolved from campsites to cabins, and eventually to motor lodges and motels. The Fairfax area established a reputation as a lodging destination and at its peak, over two dozen hotels, motels, motor courts, and tourist camps lined the Boulevard from Fairfax Circle to Kamp Washington. Some of these original motels remain, although the sites of most early motels were redeveloped into other uses as consumer demand for motels weakened in favor of larger hotels.

Some larger hotels have been built along the Boulevard. As of 2007, four hotels containing a total of nearly 500 rooms operate along the Corridor, as do five remaining smaller motels, all built in the early 1950s. However, the rate of lodging development and the acreage devoted to lodging in Fairfax has never equaled the pace seen in the industry's early years.

SHOPPING CENTERS

When Fairfax's population grew in the 1950s, retail development followed the influx of people. Observing the prevailing trends of the time, the preferred model for retail development in the 1950s became the shopping center – one-story retail buildings with room for multiple tenants, easy automobile access, and plentiful off-street parking in front of the stores.

Demand for new shopping center construction reached its peak in the 1950s and 1960s. Most of the shopping centers found along Fairfax Boulevard today were built during that period, including the Fairfax Shopping Center (1950), Kamp Washington Shopping Center (1961), Fairfax Circle Center (1963), and Fairfax Circle Plaza (1964). In the early years, shopping centers in Fairfax tended to include a food market, a drug store, a barbershop, and other retail uses to serve the needs of local residents.

Retail trends and customer preferences have constantly evolved. While in the 1960s, shopping centers were the preferred format for retail development, subsequent decades saw the rise of enclosed malls (Tysons Corner Center, Fair Oaks Mall); power centers (Potomac Yard Center, Potomac Mills Mall); and mixed-use lifestyle centers (Reston Town Center, Fairfax Corner). These types of developments have added many new dimensions to the region's retail market.

In order to stay competitive within this changing retail environment, the shopping experience along Fairfax Boulevard needs to be updated to reflect the wants and needs of the community.

OFFICE BUILDINGS

Northern Virginia experienced an unprecedented boom in office construction in the 1980s and the City of Fairfax benefited from this regional economic trend with the construction of approximately 2.5 million square feet of office space in the 1980s alone. About one-third of this office development occurred along Fairfax Boulevard – the biggest construction boom the Boulevard has ever seen.

Many of the existing office buildings along the Boulevard were built during the 1980s. These include the Fifty Sixty-Six Office Plaza (1983-85), Sherwood Plaza (1985), the Gatewood Plaza (built in 1986), and the front two buildings in the WillowWood Plaza complex located on Eaton Place (late 1980s).

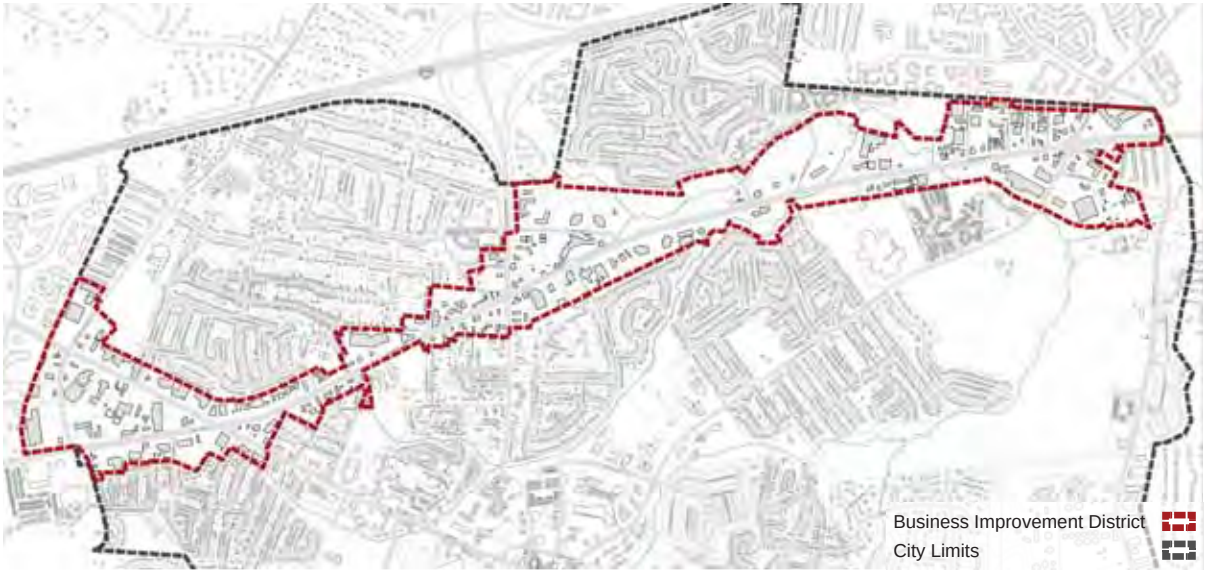
The office boom came to an abrupt end in the late 1980s as the nation faced a widespread recession. During the following decade, no new office space was built along Fairfax Boulevard. It was not until 2001, with the construction of the final two buildings of the WillowWood Plaza development, that office construction returned to the Boulevard.

RESIDENTIAL USES

Throughout its history, residential uses have not been part of the economic mix along the Boulevard. There are numerous opportunities to include residential uses in the continued development of the Boulevard, adding to the vibrancy and economic success of the area.

FAIRFAX BOULEVARD BUSINESS IMPROVEMENT DISTRICT (BID)

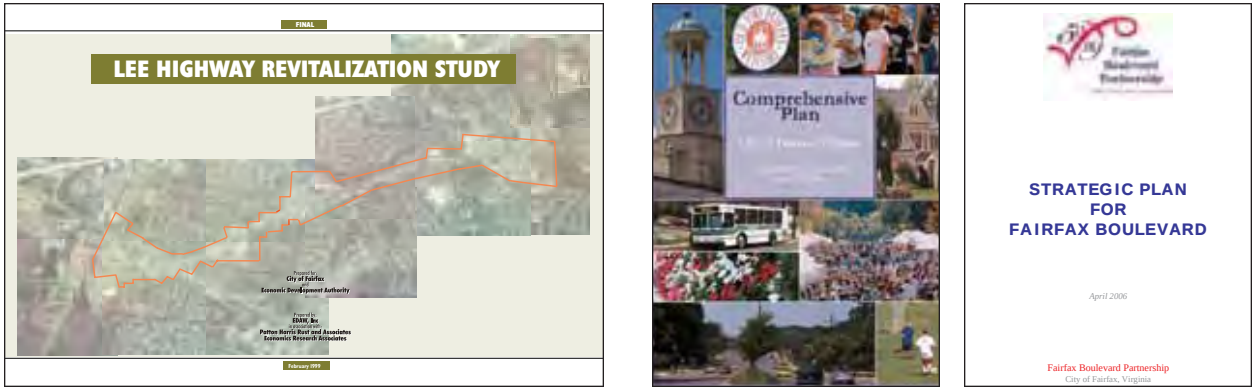
The City of Fairfax Council created the Fairfax Boulevard Business Improvement District (BID) in May 2005 to stimulate new energy and development in the Route 50/29 business corridor. The District includes properties along Fairfax Boulevard and Lee Highway (Rt. 50/29), and parts of Main Street and Jermantown Road within the City's limits. Commercial landowners within the BID are assessed a special tax to fund BID efforts. The Fairfax Boulevard Partnership is the incorporated entity governing the BID. Its membership is comprised of all land and business owners within the BID. Its Board of Directors consists of nine landowners, nine business owners, and one chairman. In July 2005 the portion of Route 50 within the City of Fairfax limits was renamed to Fairfax Boulevard. The name change was recommended to City Council by the Lee Highway Task Force as a way to strengthen the identity and economic development potential of the corridor.



Fairfax Boulevard Business Improvement District

STUDYING THE BOULEVARD

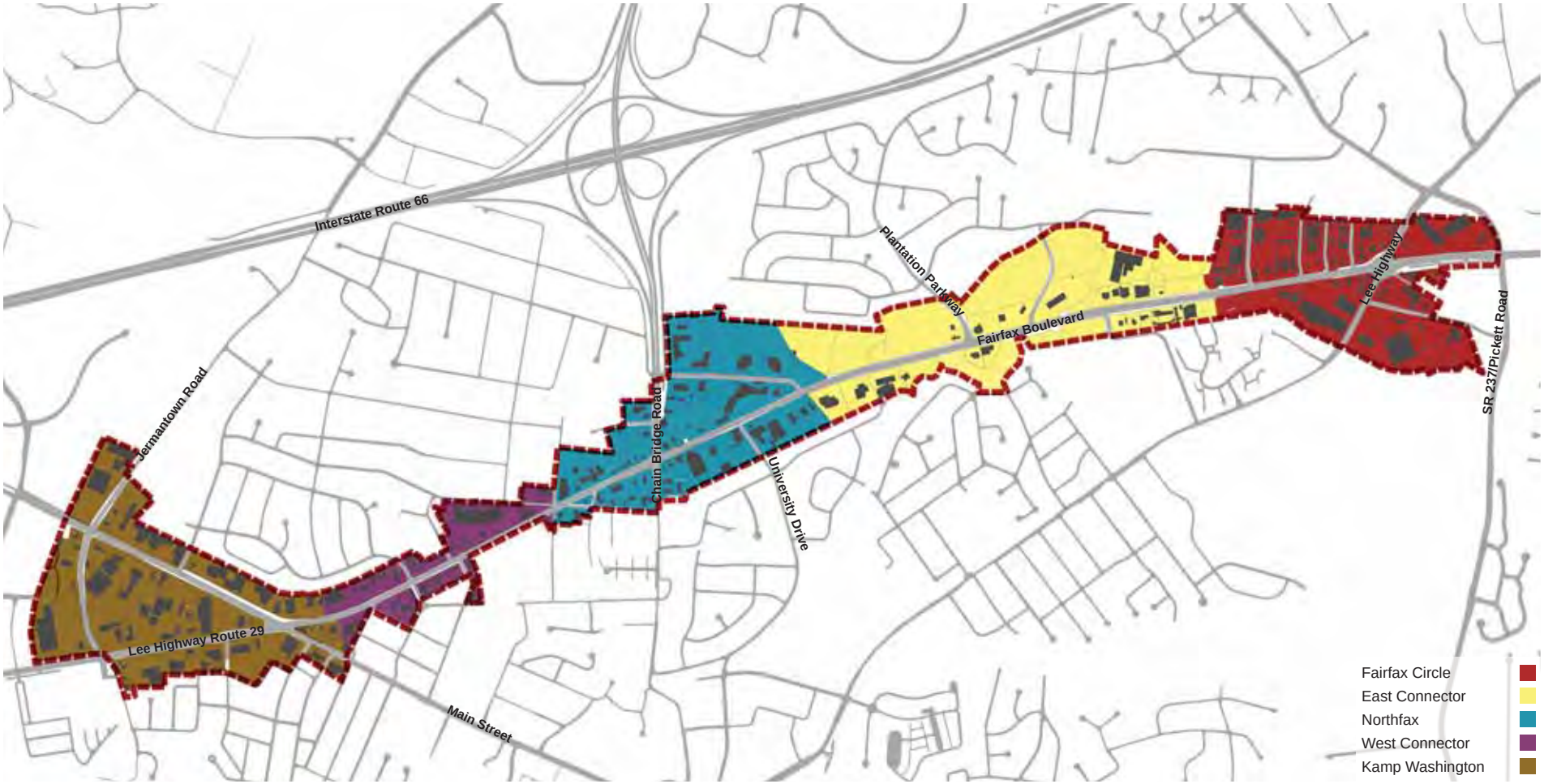
The team analyzed past studies of the area, the City's Zoning Code, recent development proposals, traffic data, and other relevant background information. Being one of the City's most visible and economically significant thoroughfares, Fairfax Boulevard has been the subject of periodic studies seeking to bolster the Boulevard's appearance or position within the regional economy. Ranging from goals in a Community Appearance Plan to an early revitalization study, these earlier plans addressed in general terms the potential for redevelopment along the Boulevard and the preferable direction for redevelopment. The reports and plans helped the team to better understand recent efforts to revitalize the corridor and previous community involvement in creating these plans.



The team reviewed all previous studies relating to Fairfax Boulevard

PLANNING AREAS

For the purpose of this Master Plan, the Boulevard is divided into several areas that each function quite differently within the framework of entire corridor. The Boulevard is organized into three distinct centers – Fairfax Circle, Northfax, and Kamp Washington – and two connectors. The following pages detail the specific physical conditions of each of the areas; recommendations for each area are included in Chapter 4.



Fairfax Boulevard Planning Areas

FAIRFAX CIRCLE

Extending from the City's northeastern limit to the 9700 block of Fairfax Boulevard, the Fairfax Circle area encompasses several shopping centers, retailers, and a 30-acre industrially-zoned area. The intersection of Fairfax Boulevard, Lee Highway, and Old Lee Highway is marked by a 200-foot bisected traffic circle. Fairfax Boulevard traffic flows through the circle, while traffic to and from the intersecting roads flow around the circle.

The Fairfax Circle area contains 99 parcels and 91.3 acres of land (excluding rights-of-way). As of 2006, approximately 44 percent of the Fairfax Circle area's acreage is in retail use, 25 percent is in flex/warehouse use, ten percent is used for vehicle sales and storage, and five percent is used for office space. The area contains three major shopping centers (Fairfax Circle Plaza, Fairfax Circle Center, and Home Depot). One of the City's largest industrial-zoned districts is located northwest of the traffic circle. The industrial properties are contained on four side roads, three of which terminate in dead-ends, and one that connects to a multifamily residential section of Fairfax County. Businesses located within this district are chiefly service-oriented, including ten auto service establishments, four auto body shops, and other similar uses.

Aerial view of Fairfax Circle


Fairfax Circle, looking southwest on Fairfax Boulevard


Side frontage road near the entrance to Fairfax Circle


Fairfax Circle, looking east on Fairfax Boulevard

EAST CONNECTOR

Containing the majority of the Boulevard's open space as well as several office buildings and other uses, the East Connector extends between Fairfax Circle and Northfax– or roughly from the 9800 block through the 10200 block of Fairfax Boulevard. The East Connector contains over 60 acres of undeveloped land on several large parcels along Fairfax Boulevard. The undeveloped parcels add up to over half of the land within the East Connector area. Over two-thirds of this undeveloped land is owned by the City of Fairfax.

Accotink Creek runs to the south of Fairfax Boulevard, and crosses the Boulevard east of Stafford Drive, joining the North Fork just west of the Fairfax Racquet Club. Accotink Creek and its North Fork tributary are designated as Resource Protection Areas (RPAs) or floodplain areas, restricting much of this unimproved land from future development.

Although most of the acreage within the East Connector area is undeveloped, there is considerable commercial activity within the developed portions of the Connector. Three office buildings (Gatewood Plaza, 10089 Fairfax Boulevard, and Sherwood Plaza) and the Fairfax Racquet Club are located in the area.

Aerial view of the East Connector


View looking east along the Boulevard


P.J. Skidoos Restaurant


Town and Country Animal Hospital

Encompassing the intersection of Fairfax Boulevard and Chain Bridge Road (Route 123), as well as the surrounding area, Northfax is a primary gateway into the City. Route 123 is the major north-south thoroughfare through the City, taking motorists from Interstate 66 south through Old Town and on to George Mason University.

The Northfax area contains 65 parcels and 94.6 acres of land (excluding rights-of-way). Northfax has the highest proportion of both office uses and automobile dealers of the five Boulevard areas. About one-third of the land within the Northfax area is devoted to office uses, and about one-quarter to auto dealerships and lots. Seventeen percent of the acreage in Northfax is dedicated to retail or restaurant use. WillowWood Plaza, considered the City's premier Class A office space, is located in the area, as well as the oldest shopping center along the Boulevard, Fairfax Shopping Center. Two commercial condominium complexes, Warwick Park and Fairfax Crossroads, straddle Chain Bridge Road just south of Fairfax Boulevard and together account for the largest concentration of commercial condo units on the Boulevard. Four new car dealers are located within the Northfax area, accounting for a total of about 20 acres of land for showrooms, service facilities, and auto storage.

Aerial view of Northfax


Looking north on Chain Bridge Road


Looking east on Fairfax Boulevard


Fairfax Shopping Center

WEST CONNECTOR

The West Connector extends for approximately one-third of a mile from the 10600 block to the 10900 block of Fairfax Boulevard between Northfax and Kamp Washington. The West Connector comprises many small parcels and one large strip shopping center. The largest single property along the corridor, though outside of the Business Improvement District, is the Paul VI Catholic High School. The building, constructed in 1936, was originally the home of Fairfax High School before it moved to its current location on Old Lee Highway in 1972.

The majority of commercial properties within the West Connector are less than two acres in size. The largest commercial feature is the Shops at Fairfax shopping center, which consists of four separate buildings, including a 76,000 square foot supermarket.

Aerial view of the West Connector


Shops at Fairfax shopping center


Businesses on the north side of Fairfax Boulevard are located along a frontage road

KAMP WASHINGTON

The largest of the five areas, Kamp Washington is located around the main intersection of Fairfax Boulevard and Main Street, and extends west to the City limits. The Kamp Washington area includes parcels on Fairfax Boulevard, Lee Highway, Jermantown Road, and within the triangle formed by those three roads.

Kamp Washington contains 64 parcels and 117.9 acres of land (excluding rights-of-way). Land uses within the area are primarily retail oriented. As of 2006, approximately 47 percent of the total acreage in the Fairfax Circle was in retail use, 17 percent was used for vehicle sales and storage, and 14 percent was used for office space. Utilities (Dominion Power and Verizon) occupy about ten acres within the area. The area currently has three shopping centers (Kmart Shopping Center, Kamp Washington Shopping Center, and Fairfax Junction) and Ford and Volvo auto dealerships. The Dominion Virginia Power utility company owns approximately eight acres within the "triangle" between Fairfax Boulevard, Lee Highway, and Jermantown Road, constituting the largest non-retail or office use in the Kamp Washington area. The area also includes the Jermantown Cemetery, one of the few remaining African-American historical sites in Fairfax.

Aerial view of Kamp Washington


Looking north on Jermantown Road


Looking north on Jermantown Road


Kamp Washington Shopping Center

ANALYSIS DIAGRAMS

Using the City's Geographic Information Systems (GIS) data, the team created a series of analysis diagrams to better understand the dynamics of the planning area.

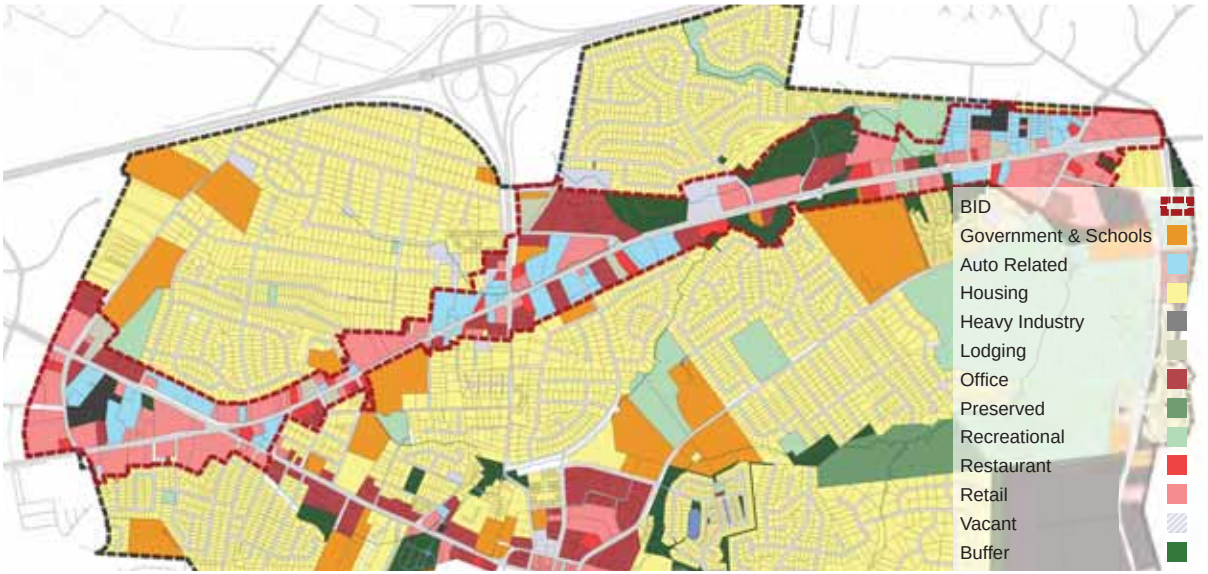
TOPOGRAPHY

Grade changes are a factor along much of the corridor. As indicated in the diagram, the elevation in the study area ranges from 240 feet to 500 feet above sea level. The highest elevations are located just west of the Kamp Washington intersection. The lowest elevations occur along Accotink Creek and its branches, in the vicinity of the East Connector and Fairfax Circle.

Topography

LAND USE

The following land use diagram documents a variety of development conditions which exist along the corridor. This diagram, or X-ray, is helpful to better understand the current land development dynamics of Fairfax Boulevard. For the most part, uses are separated, with commercial buildings lining the street, and residential buildings located a block or two off the Boulevard. Auto-related uses, along with other retail uses, occupy a significant share of real estate along the corridor.

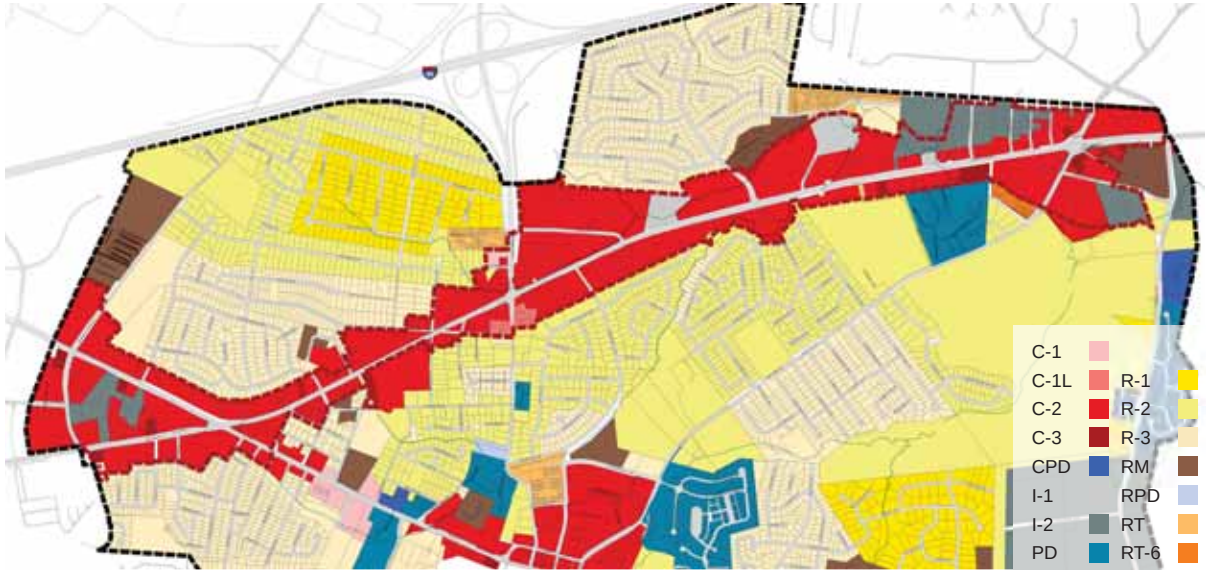


Existing land uses

ZONING

Properties located along Fairfax Boulevard are primarily zoned C-2, Commerical. There is a limited amount of I-1 and I-2, Industrial zoning in Kamp Washington and Fairfax Circle. The entire area is included as a Highway Commercial Overlay Zone.

Residential zones flank the corridor to the north and south. Such a close proximity between the corridor and residential neighborhoods requires careful attention to design and mitigation of commercial activities that may negatively affect nearby residences. Physical features such as building size, architecture, and landscaping are important for creating an acceptable transition from more urban to residential areas. Throughout this plan, such considerations are taken into account in order to ensure the long-term viability of a mixed-use corridor surrounded by residential neighborhoods.



Existing zoning

DATE OF CONSTRUCTION

The majority of development along the corridor occurred between 1950 and 1989. Fairfax Boulevard was constructed in 1934. Few buildings pre-date 1950. Fairfax High School (now Paul VI Catholic High School) was built in 1936; Fairfax Theatre (at what is now a Toyota dealership) opened in 1947. Vincent's Diner, constructed in 1952 is one of the most significant and revered historic landmarks. Limited development took place in the 1990s, primarily at Kamp Washington, on the north side of the West Connector, at Northfax, and near Draper Drive at Fairfax Circle. Only a few buildings have been added since 2000.

Date of construction

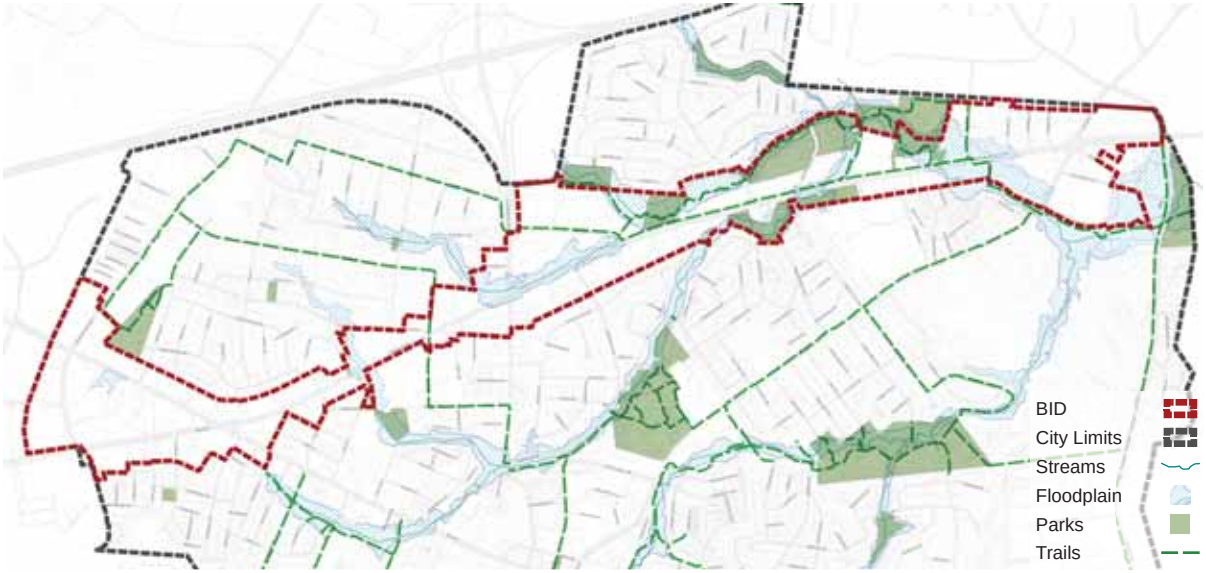
NATURAL CONDITIONS

The Fairfax Boulevard corridor is part of the Chesapeake Bay watershed. Accotink Creek and its branches are the major natural feature in the area, running parallel to the Boulevard throughout much of its length. Together with the North Fork of the creek and the Tusico Branch, Accotink Creek and its tributaries intersect Fairfax Boulevard at four separate points before being joined by Daniel's Run and flowing out of the City east of Pickett Road.

As required by the Commonwealth of Virginia, Fairfax incorporated the Chesapeake Bay Preservation Area Ordinance into the City's Zoning Code in 2003. This act established Resource Protection Areas (RPAs), which includes water bodies with perennial flow, as well as a 100-foot buffer area surrounding such water bodies. Because Accotink Creek and its tributaries meander throughout the Fairfax Boulevard corridor, a sizable portion of the Boulevard is designated as being within the City's RPA. More than three dozen properties are either wholly or partially within the designated RPAs, thus restricting the types of new development in those areas.

FLOOD ZONES

Significant portions of the Boulevard and surrounding properties fall within the 100-year floodplain or within Resource Protection Areas. In addition to 90.2 acres of RPA land within the study area, 123.2 acres are designated as being within the 100-year floodplain (areas subject to inundation from abnormally high water flow resulting from a magnitude of flooding that is likely to occur once every 100 years).



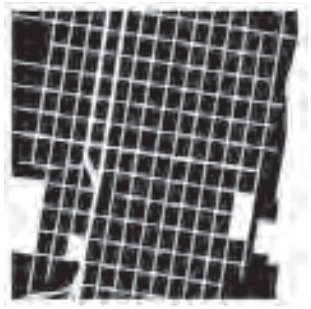
Natural conditions

Flood zones

SCALE COMPARISONS

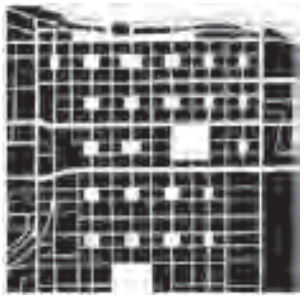
Scale comparisons helped the planners and community participants to better understand the scale of Fairfax Boulevard in relation to other memorable corridors and great places. This page shows the Boulevard at the same scale as other well-known towns and corridors. The scale comparisons give light to the vast amount of land available along the corridor, much of which could be redeveloped at a higher density. The scale comparisons also help explain a key source of the corridor's traffic problems, the lack of an interconnected road network along and across the Boulevard.

Fairfax Boulevard
Fairfax, VA



Richmond Highway
Alexandria, VA

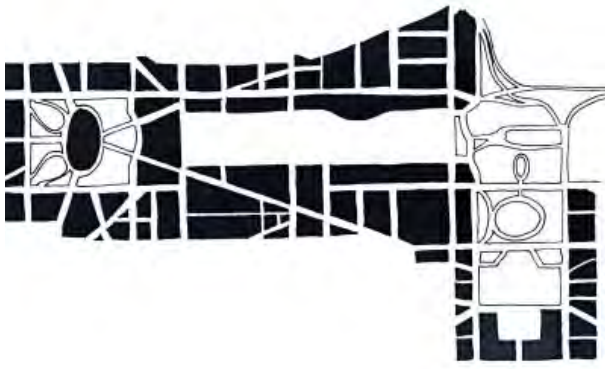
Main Street
Fairfax, VA



Broughton Street
Savannah, GA

Monument Avenue
Richmond, VA

Commonwealth Avenue
Boston, MA



The Mall
Washington, DC

creating the plan 2

The plan for Fairfax Boulevard was created through teamwork and collaboration.

Community involvement was an essential component in creating a workable vision and plan for Fairfax Boulevard. The visualizations, plans, and recommendations found in the Fairfax Boulevard Master Plan are the result of extensive public input from citizens, business owners, stakeholders, and leaders in the community. In March 2007, community members came together in an open planning process to identify the ideas, needs, and concerns regarding the future of the Boulevard. Designing in public, participants and stakeholders were offered the opportunity to give continual input on the plan. Organized as an intensive design event called a *charrette*, the community and team of design professionals worked to create the plan over the course of seven days. More than 500 interested residents and stakeholders participated in the planning process. Working together as a community is the best way to guide growth and assure quality development for future generations of Fairfax residents. The Fairfax Boulevard Master Plan demonstrates just this kind of teamwork.

What Is A Charrette?
Charrette is a French word that translates as "little cart." At the leading architecture school of the 19th century, the École des Beaux-Arts in Paris, students would be assigned a tough design problem to work out under pressure of time. They would continue sketching as fast as they could, even as little carts, *charrettes*, carried their drawing boards away to be judged and graded. Today, "charrette" has come to describe a rapid, intensive and creative work session in which a design team focuses on a particular design problem and arrives at a collaborative solution. Charrettes are product-oriented. The public charrette is fast becoming a preferred way to face the planning challenges confronting American communities.

CHARRETTE PREPARATION

Prior to the charrette, the Dover-Kohl team focused their efforts on gathering base information and studying the existing physical conditions of Fairfax Boulevard. This analysis included learning about local history, researching precedent corridor planning efforts, reviewing previous plans and studies, studying traffic data and reports, and analyzing the physical and economic characteristics of Fairfax Boulevard. A more detailed overview of the team's background analysis can be found in Chapter 1.

Members of the team visited Fairfax in February 2007 and met with the Mayor and City Council, representatives from the Fairfax Boulevard Partnership, Planning Commissioners, Economic Development Authority members, and City staff in preparation for the charrette. The meetings and interviews helped the team to better understand the dynamics of Fairfax Boulevard and the leadership's vision and ideas for the future of this important corridor.

In addition to the meetings with local leaders and City staff, a Kick-off Presentation was held on Tuesday, February 13. Interested citizens, City leaders, and local and regional stakeholders gathered at City Hall for the evening presentation. Mayor Lederer welcomed the crowd and stressed the importance of community participation throughout the planning effort. Victor Dover, principal of Dover, Kohl & Partners and charrette leader, reinforced the need for citizen involvement throughout the charrette process to ensure the creation of a plan truly representative of community ideals. Victor provided background information on traditional town building, infill development, redevelopment, and great streets in the region and around the world. At the close of the presentation Council members and others asked questions and offered initial input to the team. An exit survey was distributed to further gain input and the entire event was broadcast live on Cable TV Cityscreen-12.

A key element in preparing for the charrette was generating public awareness. The City and Fairfax Boulevard Partnership spread the word about the planning process by advertising in local and regional newspapers, posting public notices, direct mailings to all residents and business owners, flyers in local businesses, media events, and an interactive website. Information was included in the City's monthly newsletter, *Cityscene*, and updates on the process were distributed using the City's electronic Message Alert System (eMAS). In addition, banners announcing the planning process were placed in two visible locations along the corridor before and during the charrette. One was located at Chain Bridge Road near the intersection of Fairfax Boulevard and the other was placed at 10960 Fairfax Boulevard to mark the location of the design studio.

The City and Fairfax Boulevard Partnership mailed postcards to property owners and residents to announce the events.

Market Commons – Clarendon (Arlington County)

Georgetown

Connecticut Avenue NW

Capitol Hill

Old Town Alexandria

Fairfax Corner

Old Town Fairfax

Study Tours

In order to place Fairfax Boulevard in the planning context of the greater Washington, D.C. metro region, the team arrived a few days prior to the start of the charrette to allow time to study and tour the corridor and its surroundings, including Georgetown, Capitol Hill, and Dupont Circle in Washington, D.C., Arlington's Rosslyn-Ballston Metro Corridor (including the Market Commons development in Clarendon), and Old Town Alexandria. The team examined recent developments in Fairfax County, including nearby Fairfax Corner and the Merrifield Town Center. The team also visited Old Town Fairfax to document the historic pattern of town-building and to better understand the recent planning and development efforts within the heart of the City. During the study tours the team documented the built environment through photographs, sketches, and measurements of streets and public spaces. Visiting these areas helped the team to understand the Boulevard's importance within a larger regional context and offered the team insight with regards to the character of historic settlements and recent developments in the region.

Site Analysis

Team members walked and photographed the Boulevard, noting street design, building form, building placement, architectural character, and natural features. With base maps in hand, the planners and designers documented the existing land use patterns, analyzing street connections, block sizes, building types, and building heights found along the Boulevard. Team members noted potential areas for infill development, redevelopment, land conservation, preservation, and the unique conditions and characteristics of Fairfax Boulevard.

THE CHARRETTE

On Saturday, March 24, approximately 200 community members and business owners turned out to Fairfax High School for the Hands-on Design Session. Mayor Lederer welcomed the crowd and thanked everyone for their participation and dedication to the planning process. Victor Dover led a brief "food for thought" presentation on traditional town design, multi-modal transportation planning, and what peer communities are doing to transform their strip-commercial corridors. Victor then explained the day's design exercise to participants, oriented participants to base maps, and set ground rules and goals for the session.

Working in small groups of approximately ten people per table, participants gathered around tables in the high school cafeteria to share their varied ideas for the future of Fairfax Boulevard. Each table was equipped with base maps, markers, scale bars, and aerial photographs of the Boulevard. Analysis diagrams and large maps of the area were placed around the room on boards to help familiarize participants with the unique conditions of the Boulevard. A facilitator from the Dover-Kohl team was assigned to each table to assist participants in a series planning exercises.

During the first part of the table sessions, community members identified the important issues associated with the overall future of the corridor. Participants actively drew on base maps to illustrate how they might like to see the area evolve in the future by describing the uses, open spaces, building design, street design, transportation, parking, and services for the Boulevard. For the second part of the workshop, participants focused on specific redevelopment areas along the boulevard. Each table worked on one of the "close-up" areas – Kamp Washington, Northfax, or Fairfax

Mayor Lederer welcomed the community at the Hands-on Design Session.

Victor Dover explained the rules and goals of the session.

Over 200 people participated in the Hands-on Design Session, eager to work together to create a plan for the Boulevard.

Residents shared ideas for the future of Fairfax Boulevard.

Circle. Box lunches were provided and participants worked into the early afternoon refining their ideas and illustrating possibilities for the areas.

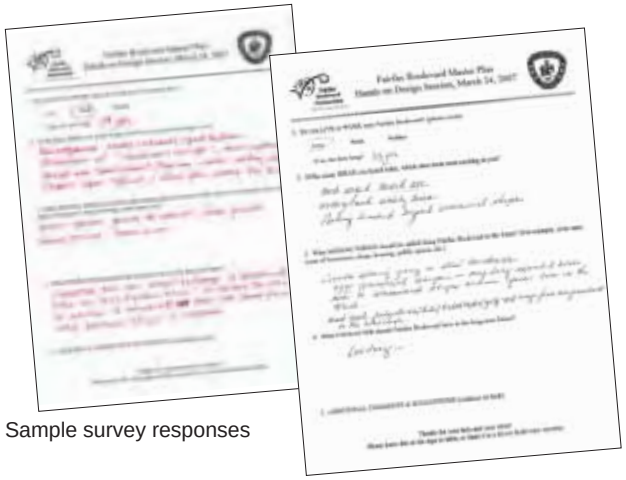
At the end of the workshop, a spokesperson from each table reported their table's ideas for the future of the Boulevard to the entire assembly. Common themes began to emerge quickly, as the important goals for the improvement and redevelopment of the Boulevard were identified. Of the many ideas heard, some of the most widely shared ideas included:

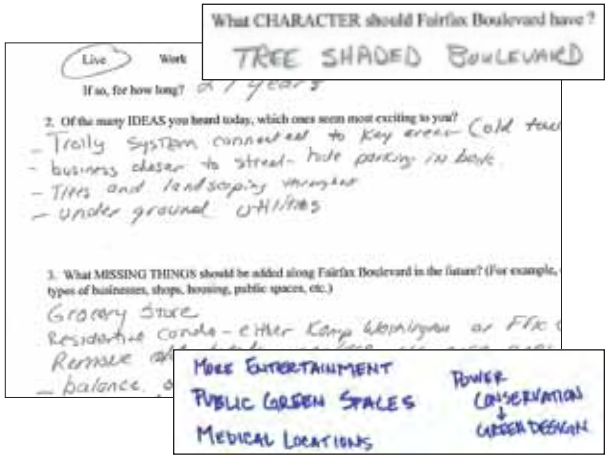
- make the Boulevard more friendly for pedestrians and cyclists
- add more places for people to visit, shop, live, work and be entertained along the Boulevard
- relieve traffic congestion at the intersections by adding new streets
- make the intersections proud features of the community
- create a true boulevard with a median, trees, wider sidewalks, and frontage roads
- preserve open spaces and add more "green" to the corridor
- plan for future transit possibilities
- promote local businesses and create a plan that is market supported

In addition to the group presentations, each participant filled out a survey at the end of the session; the survey responses revealed additional ideas and common goals. The intent of the Hands-on Design Session was to forge an initial consensus and develop an overall vision.

A representative from each table presented their work to the group.

Sample table drawings





Sample survey responses

From Sunday, March 25 through Thursday, March 29, the design team continued to work in an open design studio at the site of the former La Mina furniture store (10960 Fairfax Boulevard) near Kamp Washington. The team worked to integrate the many ideas heard from the community throughout the week into a plan to guide the continued development of the Boulevard. Citizens and local leaders were encouraged to stop by the studio to check the status of the plan, provide further input, and to make sure the design team was on the right track. The convenient location of the studio, as well as the immense community interest, led over 100 people to participate throughout the week. The table drawings and plans from the Saturday design session were placed around the room for easy review as new participants became involved.

While community members, property owners, and City officials visited the studio, the design team continued to analyze the information gathered at the hands-on session and site analysis in order to formulate the initial concepts for the plan. The team was tasked with synthesizing the many ideas heard from the community throughout the week into one final plan. The planners and designers created diagrams, illustrations, computer visualizations, sketches, and plans, working to combine and refine the ideas. Working along Fairfax Boulevard allowed the design team ready access to the study area during all hours and on different days of the week. The planners observed day-to-day traffic patterns, visited local business, and experienced other details of everyday life in Fairfax.

In addition to the open design studio, members of the design team met with property owners, developers, and technical experts in scheduled meetings. The meetings were used to answer design questions, discuss the draft plans, and gain further input with regards to details associated with the redevelopment of the Boulevard. Technical meetings included sessions with City Councilors, Planning Commissioners, members of the Fairfax Boulevard Partnership, Economic Development Authority leaders, Parks and Recreation staff, Public Works staff, Commission on the Fine Arts representatives, George Mason University representatives, and property and business owners. The technical meetings helped to further shape the detailed elements of the plan and to ensure that the ideas being processed were consistent amongst many viewpoints.

The designers started by compiling all of the ideas heard at the Hands-on Design Session onto one big map.

The multi-disciplinary team worked together on the technical components of the plan.

If it were up to you alone, which of the following would be MOST important and which would be LESS important? Number these items in order of importance to you, with #1 being the most important and #7 being the least important.

Ranking	1	2	3	4	5	6	7
Walking	15	5	7	10	7	0	0
No Change	3	1	0	0	2	10	26
Outside Traffic	7	4	1	9	9	9	1
Business	9	7	11	4	7	3	0
Beautification	9	10	12	7	3	1	0
Commercial Strip	0	1	1	2	7	18	10
Character	11	14	7	5	2	4	0

Results of the surveys distributed in the design studio to visitors.

The design team held daily pin-ups in the studio.

The team worked on-site, creating the plan for the Boulevard.

The charrette week ended with an evening "Work-in-Progress" Presentation on Thursday, March 29 at City Hall. Over 75 citizens attended the presentation to see and hear how the planners and designers synthesized the community's ideas into a vision for the future of Fairfax Boulevard. Mayor Lederer welcomed the crowd and thanked community members for their participation in the important planning effort. Victor Dover then began the presentation with a summary of the week's events, then presented sketches and visualizations illustrating the hypothetical build-out of the Boulevard over the course of the next 50 years. Focusing on the three gateways into town, Victor walked the audience through a "future tour" showing potential scenarios for redevelopment. Renderings showed "before" and "after" illustrations of possible redevelopment opportunities. A 3-dimensional model of the Boulevard offered viewers the feeling of driving or walking down the redeveloped corridor.

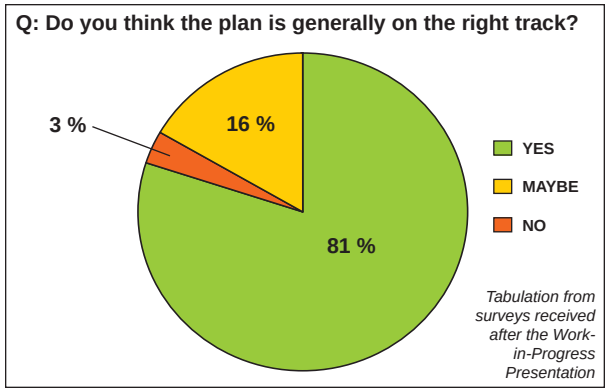
Edward Starkie of Urban Advisors, then spoke about the market and implementation strategies. Rick Hall of Hall Planning and Engineering then discussed the transportation components of the plan, and reported on how improvements would enhance traffic flow and increase pedestrian mobility. Geoffrey Ferrell and Mary Madden of Ferrell Madden Associates concluded the presentation with an overview of necessary revisions to the City's land development regulations. At the end of the presentation, an exit survey was distributed to gauge the community's opinion on the ideas presented that evening.

Over 75 citizens attended the Work-in-Progress Presentation.

Team members provided a summary of initial coding ideas.

Sample Work-in-Progress exit surveys.

Rick Hall discussed the transportation components of the plan.



AFTER THE CHARRETTE

After the week-long charrette, the illustrative plan scenarios produced during the charrette were refined and this report was created. Charrette participants were asked to continue to give their input on the draft plans; the plan and corresponding images were available for review at City Hall as well as on the City of Fairfax web site. The following report represents a synthesis of the community's desires and goals for the future of Fairfax Boulevard.

first principles 3

Through the charrette process, the community and design team arrived at a series of basic urban design, transportation, and policy principles to guide the redevelopment of Fairfax Boulevard. Shaped by input from participants during the charrette, the "First Principles" embody a shared vision for the future of the corridor. The First Principles summarize the results of the open planning process and promote responsible growth and development. The principles apply to Fairfax Boulevard, but are also essential planning principles that should apply to the redevelopment of corridors throughout the region. Fairfax Boulevard has the opportunity to become a national model for corridor redevelopment.

This chapter presents the broad scope of the community's vision for the future of Fairfax Boulevard; specific design components of each principle are further described and illustrated in Chapter 4. General guidance on implementing each principle is included; detailed implementation strategies can be found in Chapter 7.

FIRST PRINCIPLES

- Make the Boulevard a walkable 'great street'
- Change on the community's terms, controlling size & scale
- Grow a mix of uses & destinations
- Balance traffic capacity, safety & character
- Plan for feasible, phase-able pieces
- Enable the market

ILLUSTRATIVE MASTER PLAN

The Illustrative Master Plan was created during the charrette. The plan synthesizes community ideas and identifies key opportunity sites for potential development, redevelopment, and conservation. This map is for illustrative purposes and is not a regulating document. A larger version of the plan is on display at City Hall.

MAKE THE BOULEVARD A WALKABLE 'GREAT STREET'

In its present condition, Fairfax Boulevard is a regional thoroughfare whose primary purpose is to move automobiles east and west throughout the region. What started as a "bypass" road, allowing motorists to reach Kamp Washington, the former location of an auto camp in the 1930s, has grown into a heavily traveled six-lane highway and a road that caters to pass-through traffic rather than the needs of the local community. Instead of functioning as an utilitarian roadway that divides the community, the Boulevard should be transformed into a community asset and point of pride for residents and community leaders.

Fairfax Boulevard, existing conditions, 2007

> *It is not surprising that, given their multiple roles in urban life, streets require and use vast amounts of land. In the United States, from 25 to 35 percent of a city's developed land is likely to be in public right-of-way, mostly streets. If we can develop and design streets so that they are wonderful, fulfilling places to be, community building places, attractive public places for all people of cities and neighborhoods, then we will have successfully designed about 1/3 of the city directly and will have an immense impact on the rest.*
>
> – Allan Jacobs, *Great Streets*

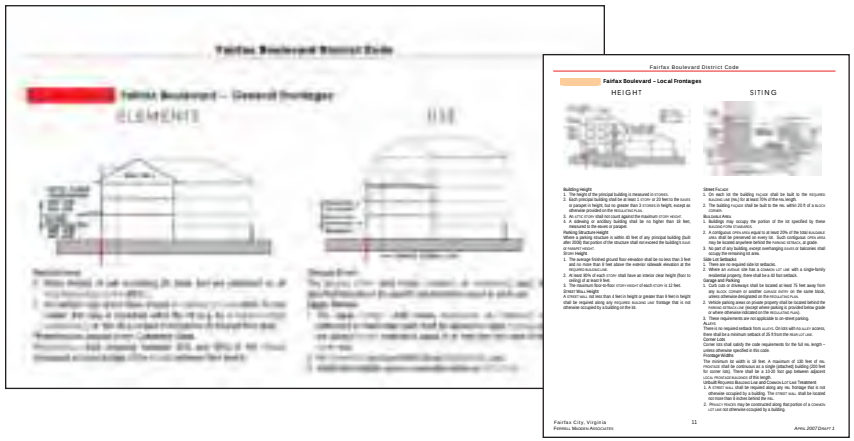
Through the duration of the charrette, Fairfax residents were charged to dream big, to imagine how they would like Fairfax Boulevard to look and function in the near and long term future. By thinking big and working together, Fairfax residents expressed their hope for Fairfax Boulevard to become a "great street" enhanced by street trees and reconfigured as a safe and attractive place for pedestrians.

Through proper planning and urban design, Fairfax Boulevard can emerge as one of the best streets in the Washington, D.C. metro region and become a postcard picture of the region. In order to accomplish this goal, the local community must change the way they deal with the Boulevard. Rather than allowing it to do just one job, moving the maximum number of cars at peak hour, Fairfax residents and business owners can demand more from this important roadway – that it not only provide an excellent auto experience, but also an excellent walking, cycling, shopping, working, and living experience. This change in mindset from viewing the corridor as simply an automobile oriented thoroughfare, to a cherished component of the City, can ultimately result in greater walkability and the transformation of Fairfax Boulevard from a conventional suburban strip-commercial corridor to a great street.

Fairfax Boulevard, *in the future*: a new street design (including street trees to separate pedestrians from moving vehicles and the introduction of a slow lane) creates a comfortable pedestrian environment.

CHANGE ON THE COMMUNITY'S TERMS, CONTROLLING SIZE & SCALE

Property owners and developers are eager to move forward with the redevelopment of sites along the Boulevard. The market is ripe for reinvestment and the growing demand for land within the City has made people realize that many properties along the Boulevard are under-utilized and have significant redevelopment potential. The Fairfax Boulevard Master Plan illustrates the hypothetical build-out of the corridor. The plan was created with community input and captures the vision of Fairfax residents with regards to the size and scale of development appropriate for Fairfax. Future development and redevelopment needs to respect the community's overall vision for the Boulevard. In order to realize the vision, the City and community must diligently control the size and scale of buildings and character of development. The best way to do this is through revised land development regulations that are form-based and focus on the built result rather than solely land use.



Sample pages from the form-based code for Fairfax Boulevard

New development along the Boulevard should respect adjacent neighborhoods. Development should transition from larger mixed-use buildings along the Boulevard to smaller, residential-scaled development closer to existing residences.

GROW A MIX OF USES & DESTINATIONS

To provide a center for the community and to better address transportation problems, Fairfax Boulevard should support a vibrant mix of uses, including housing, offices, green spaces, and civic uses. Currently, the majority of parcels along the corridor contain single uses. This pattern fails to create places where people can walk, congregate, and spend time. This separation of land uses requires multiple long car trips to get the errands of daily life accomplished and since the highly traveled streets are poorly interconnected and rarely unburdened by parallel routes, everyone seems to need the same road at the same time. If 1) land uses are mixed and 2) streets are interconnected in parallel routes north and south of Fairfax Boulevard, Fairfax would be doing the two things that matter the absolute most to managing traffic congestion. Instead of continuing to require the separation of uses, which requires people to make multiple car trips to meet their daily needs, Fairfax Boulevard should provide "park once" destinations. By allowing and encouraging the integration of land uses, Fairfax Boulevard can create destinations and gathering places for the local community and visitors alike.

The special centers along the Boulevard should have a mix of uses and building types, creating an interesting place and destination for Fairfax residents and visitors.

BALANCE TRAFFIC CAPACITY, SAFETY & CHARACTER

The Fairfax region and Fairfax Boulevard in particular, is legendary for its traffic congestion. As population increases, traffic will continue to grow. The pattern of segregated land uses typical along the corridor exacerbates traffic by requiring people to make multiple car trips to meet the needs of daily life. Because Fairfax Boulevard is one of the few continuous east-west connections in the area, regional traffic is funneled onto the corridor. A more integrated street network would help dissipate traffic and provide multiple routes for vehicles and pedestrians.

As Fairfax plans for its future, it is important to maintain traffic capacity but also ensure the safety of both vehicles and pedestrians. Fairfax Boulevard should remain a central organizing element of the region's transportation network, and also a beautiful place that is safe and pleasant for walking and biking. In its current configuration, Fairfax Boulevard is primarily an instrument for moving cars, with minimal infrastructure in place for safe pedestrian movement. In addition, the overall physical design and layout of buildings along the corridor are organized in a manner that caters to the automobile, and negatively impacts the safety, walkability, and the general appearance of the corridor.

Fairfax Boulevard has the potential to be transformed into an urban street with expanded economic activity and improved physical design that promotes walking and biking. By emphasizing the safety and character of the Boulevard, it can become a unifying feature that serves the entire community, while still maintaining efficient traffic flow.

New streets (highlighted in red) complete the network of streets, adding multiple options for travel.


With minor adjustments to the current roadway, the street could be shared with cyclists and transit vehicles.

PLAN FOR FEASIBLE, PHASE-ABLE PIECES

The plan for Fairfax Boulevard illustrates the hypothetical build-out of the corridor and the properties along this important roadway. Understanding that the complete transformation of the corridor will not happen overnight, the plan for Fairfax Boulevard is designed to be implemented in both the near term and over a longer period of time. This "100 year" plan encompasses the ideals and desires of the community for how the corridor should evolve over time. During the charrette, the design team worked with the City and property owners to discuss and strategize on how properties along the corridor can be redeveloped. Pulling from various discussions, the design team worked to create a plan that can be implemented one piece at a time, as opportunities arise. This phased, incremental approach to growth allows for infill development and redevelopment to occur incrementally over time. By having a plan in place for Fairfax Boulevard, the corridor can evolve in a way that respects and contributes to the community's overall vision for a livable and economically vital corridor.

Existing conditions: Northfax, 2007

Initial phases of redevelopment: The slow lane improves circulation in the area; infill development begins on a few parcels.

Future build-out: A complete network of blocks and streets are formed and new buildings address the street space. The area is transformed into the heart of the Boulevard and center of town.

ENABLE THE MARKET

Fairfax Boulevard presents an opportunity to promote a variety of new businesses, with the benefits of job creation, increased tax base, and new social centers for the community. Treating Fairfax Boulevard like a Main Street will stimulate economic development and generate higher and better uses for most properties along the corridor. Numerous opportunity sites exist along the corridor, including several large parcels ready for redevelopment. These sites are already served by public utilities and are proximate to existing community investment. Supporting a mixed-use and immersive pattern of redevelopment will generate significant economic returns and a quality environment that can be enjoyed by the residents of Fairfax. The combination of a main street condition with integrated residences, offices, and recreational amenities will create a natural draw for many consumers and present a significant economic opportunity for the City.

FIRST PRINCIPLES — GETTING THERE

The following steps are necessary to achieve the First Principles:

a. Adopt the Fairfax Boulevard Master Plan.

b. Amend the City's Zoning Code to include the Fairfax Boulevard District Code.

c. Promote the Fairfax Boulevard Master Plan and continue to build public support for the redevelopment of the Boulevard.

d. Continue to coordinate the multiple City commissions, agencies, and organizations that will impact implementation.

Additional Implementation Strategies are included in Chapter 7.

special places 4

The Fairfax Boulevard Master Plan provides a comprehensive strategy to guide new and infill development along the Boulevard. Fundamental to the plan is the transformation of the corridor into a classic boulevard, a walkable "great street" with sidewalks, street trees, on-street parking along slow lanes, and street-oriented buildings. In addition, the plan recommends revisions to the land development regulations, improvements to special intersections along the Boulevard, the redevelopment of strip shopping centers into town blocks, and the creation of new public spaces. These ideas, or "Big Moves", are the main ideas that are used to implement the First Principles. The Big Moves are noted on the Conceptual Build-out Plan (page 4.4 and 4.5) and are further described throughout this chapter.

The plan is organized around a series of special centers. These centers are located at key intersections and each center forms the foundation of a complete corridor. This chapter explains in detail the intended evolution of those centers and includes specific recommendations for Fairfax Circle, East Connector, Northfax, West Connector, and Kamp Washington.

The special centers along the corridor are approximately a 5 minute walk from center to edge. If streets are walkable, most people will walk a distance of approximately ¼ mile (1320 feet or 5 minutes) before turning back or opting to drive or ride a bike rather than walk. (Many neighborhoods built before World War II are about ¼ mile across.)

BIG MOVES

- *revised regulations*
- *connected street network*
- *street trees & proper sidewalks*
- *"boulevard-style" slow lane & parking*
- *special intersections at the centers*
- *strip centers converted into town blocks*
- *new public spaces*

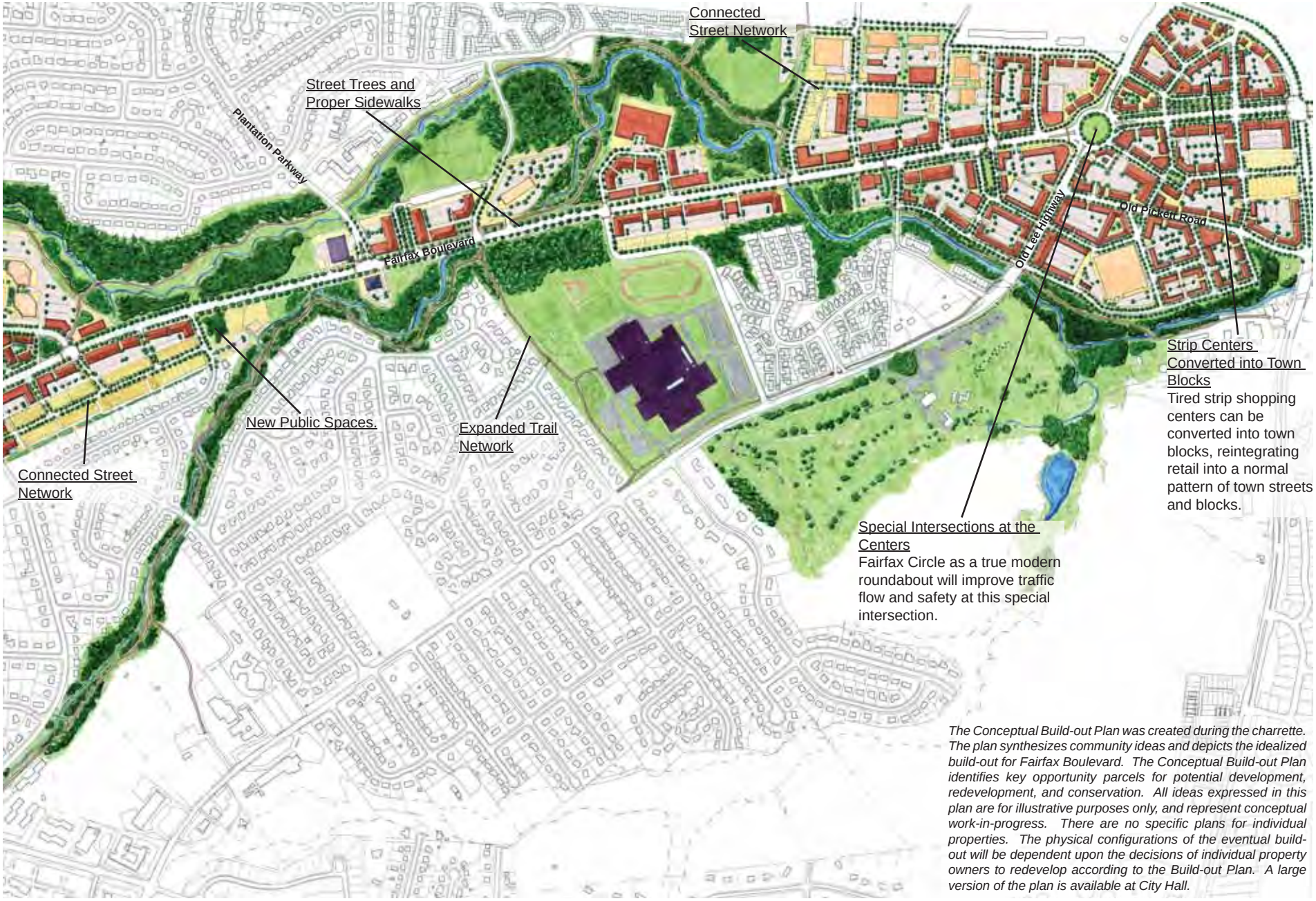
This dimension is a recurring characteristic of the way people have settled towns for centuries. This distance relates to the manner in which people typically define the edges of their own neighborhoods. Of course, neighborhoods are not necessarily circular in design, nor is that desirable. The ¼ mile radius is a benchmark for creating a neighborhood unit that is manageable in size and feel and is inherently walkable. Neighborhoods of many shapes and sizes can satisfy the ¼ mile radius test. Fairfax Boulevard demonstrates the ¼ mile radius principle with several distinct neighborhoods or centers. The Conceptual Build-out Plan shows how to reinforce the identity and completeness of each of Fairfax Boulevard's neighborhoods with infill development and redevelopment.

The Conceptual Build-out Plan provides design details for the hypothetical build-out of the Boulevard. Off the boulevard new streets are proposed that will create pedestrian-scale blocks and, where possible, a parallel street network. New, tree-lined streets will provide equally for the pedestrian, bicycle and automobile. Civic buildings are to be located at prominent locations. New trails are planned to complete the current trail system. Parking is hidden at the rear of lots and at the centers of blocks (in structured parking where appropriate). The design of new buildings along Fairfax Boulevard will be more reflective of what is best in the city and region. Strip shopping centers are to be converted to town blocks. In areas that are exclusively commercial in use, neighborhoods that are compact, pedestrian-friendly, mixed-use and within walking distance to parks and squares will be introduced.

To accommodate the type of new development Fairfax citizens want along the Boulevard, the land development regulations need to be revised to focus on building form rather than just land use. The new regulations would be form-based and would have greater detail with regards to the physical design of the place residents want Fairfax Boulevard to be. Proper regulations would provide certainty for neighbors and predictability for property owners, developers, and investors. Uncertainty is the great enemy of community character and revitalization. With revised regulations that focus on the end result of achieving the Boulevard Fairfax citizens want, everyone wins.

Walkable centers along the Boulevard

CONCEPTUAL BUILD-OUT PLAN

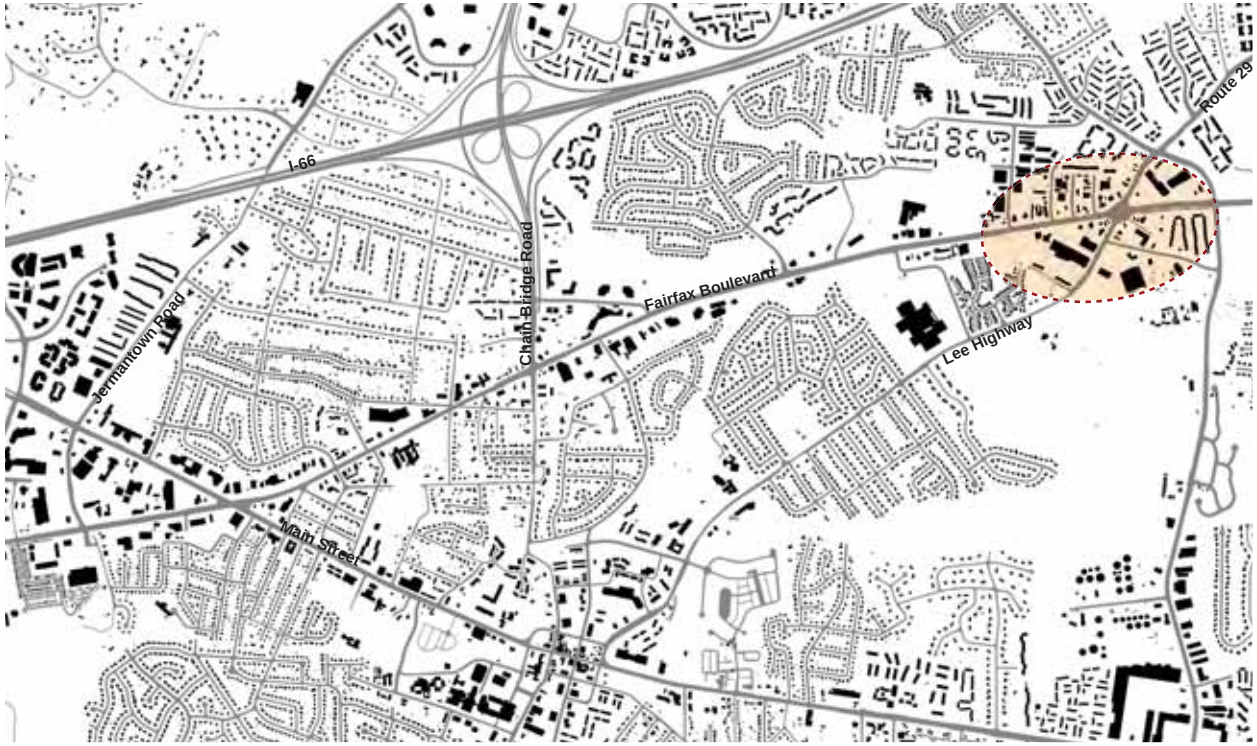


The Conceptual Build-out Plan was created during the charrette. The plan synthesizes community ideas and depicts the idealized build-out for Fairfax Boulevard. The Conceptual Build-out Plan identifies key opportunity parcels for potential development, redevelopment, and conservation. All ideas expressed in this plan are for illustrative purposes only, and represent conceptual work-in-progress. There are no specific plans for individual properties. The physical configurations of the eventual build-out will be dependent upon the decisions of individual property owners to redevelop according to the Build-out Plan. A large version of the plan is available at City Hall.

SPECIAL PLACES

FAIRFAX CIRCLE

Fairfax Circle is located at the intersection of Old Lee Highway/Route 29 and Fairfax Boulevard at the eastern boundary of the Fairfax Boulevard Business Improvement District (BID). The circle functions as the eastern gateway to the Boulevard and to the City of Fairfax.



Although a great deal of traffic passes through the circle heading to and from Washington, D.C. to the east or Interstate 66 and the Vienna Metrorail station to the north, the circle itself is not a destination. With an average diameter of 320 feet and a center green space of about an acre, the circle is physically comparable to Dupont Circle or Scott Circle in Washington, D.C., yet the circle in its current condition is not a signature public space. The buildings at Fairfax Circle fail to enclose the public space and do not create the kind of "outdoor room" that characterizes inviting urban places. The stores and offices on the circle are one-story and are set far from the boulevard and circle behind large expanses of surface parking. The area is designed for moving vehicles quickly and is dangerous for pedestrians. The circle is currently bisected by the Boulevard and multiple traffic signals control the flow of vehicles around the circle.

The plan recommends the transformation of the circle into a distinct gateway. The intersection is realigned into a two or three lane roundabout. The center through lanes are removed and a formal park forms the center of the roundabout. By replacing the traffic signals and allowing traffic to continually circulate, the roundabout improves traffic flow. Roundabouts are proven to improve safety and reduce the frequency and severity of injury causing accidents. More information on roundabouts can be found in Chapter 5.

Street-oriented buildings that have doors and windows facing the street are introduced. The mixed-use, multi-story buildings are brought closer to the circle and enclose the space. Boulevard-style parallel roads buffer the pedestrian experience from the movement of traffic and provide on-street parking, thus eliminating some of the need for large surface parking lots.

A secondary street network is created around the circle, organizing the area into walkable blocks and streets. Squares and public spaces are introduced. Parking is located within the blocks, either in the form of surface or structured parking. By locating parking mid-block, the parking is able to be lined with habitable space instead of the blank walls of naked garages facing the street. Additional frontage for businesses is created along the new roads.

Smaller blocks and streets enhance the pedestrian experience.

Fairfax Circle shown as a true modern round-about.

Parking is located in the rear of lots and buildings face the street.

New residential areas

Side access lanes provide great addresses and safety for pedestrians.

The light-industrial area that currently exists should remain and be improved.

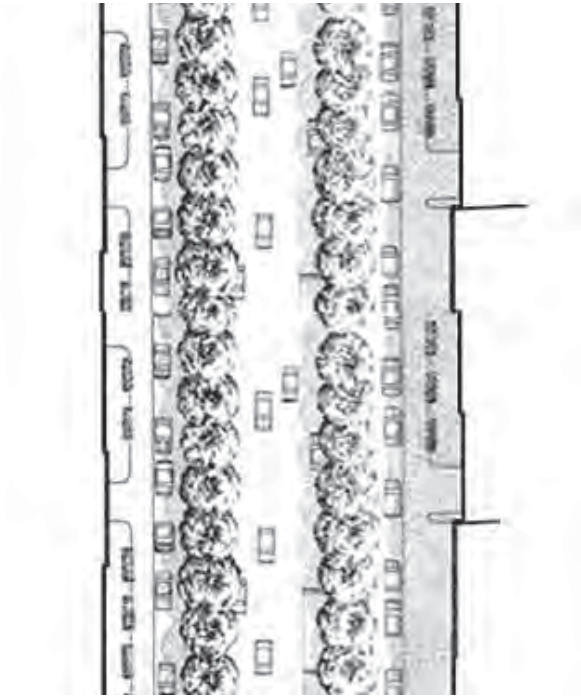
Continuous pedestrian trails are provided throughout the plan.

Pedestrian crosswalks are provided at every lighted intersection.

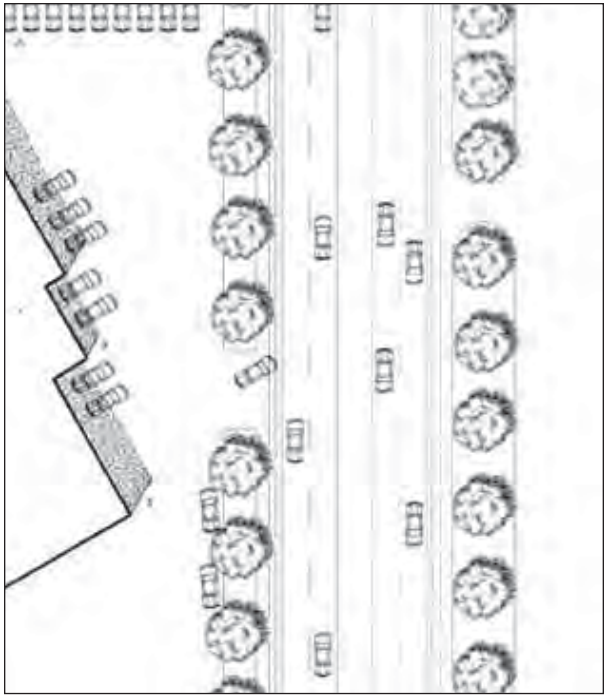
Existing businesses can remain but their parking lots may be re-configured.

Neighborhood greens serve the surrounding businesses and residences.

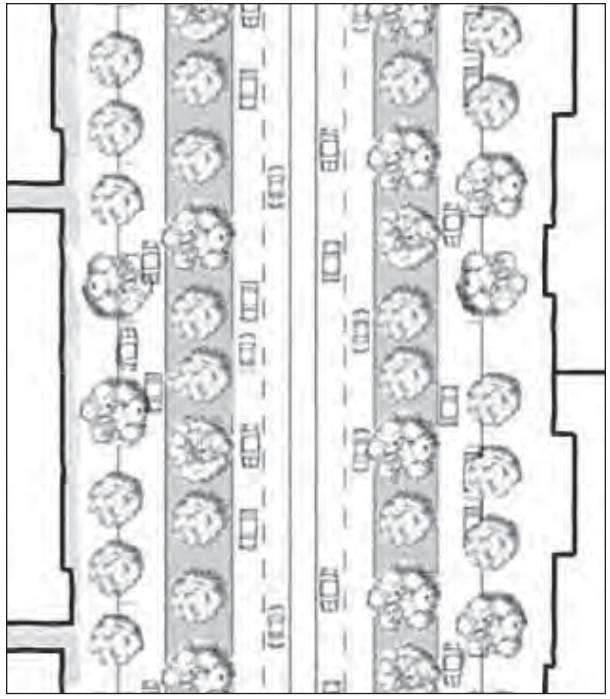
An aerial view (looking north) of the reconfigured Fairfax Circle shows the integration of a fully functional roundabout design. In addition to its efficiency as a traffic device, the redesigned circle will be a grand public space and memorable entrance to the City of Fairfax.



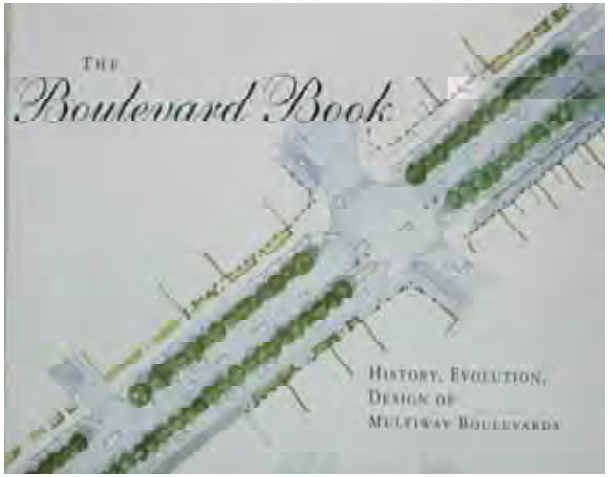
Avenue Montaigne, Paris



Fairfax Boulevard, existing conidtions



Fairfax Boulevard, proposed boulevard design



The Boulevard Book by Allen Jacobs and Elizabeth McDonald

A complete multi-way boulevard is designed to accommodate both large volumes of through-traffic on its travel lanes and slower speed travel and on-street parking on side access lanes. The access lanes allow for a main street style mix of commercial businesses and residences.

The art of combining the needs of the motor vehicle with the needs of the pedestrian on one street is described comprehensively by Allen Jacobs and Elizabeth McDonald in *The Boulevard Book*.

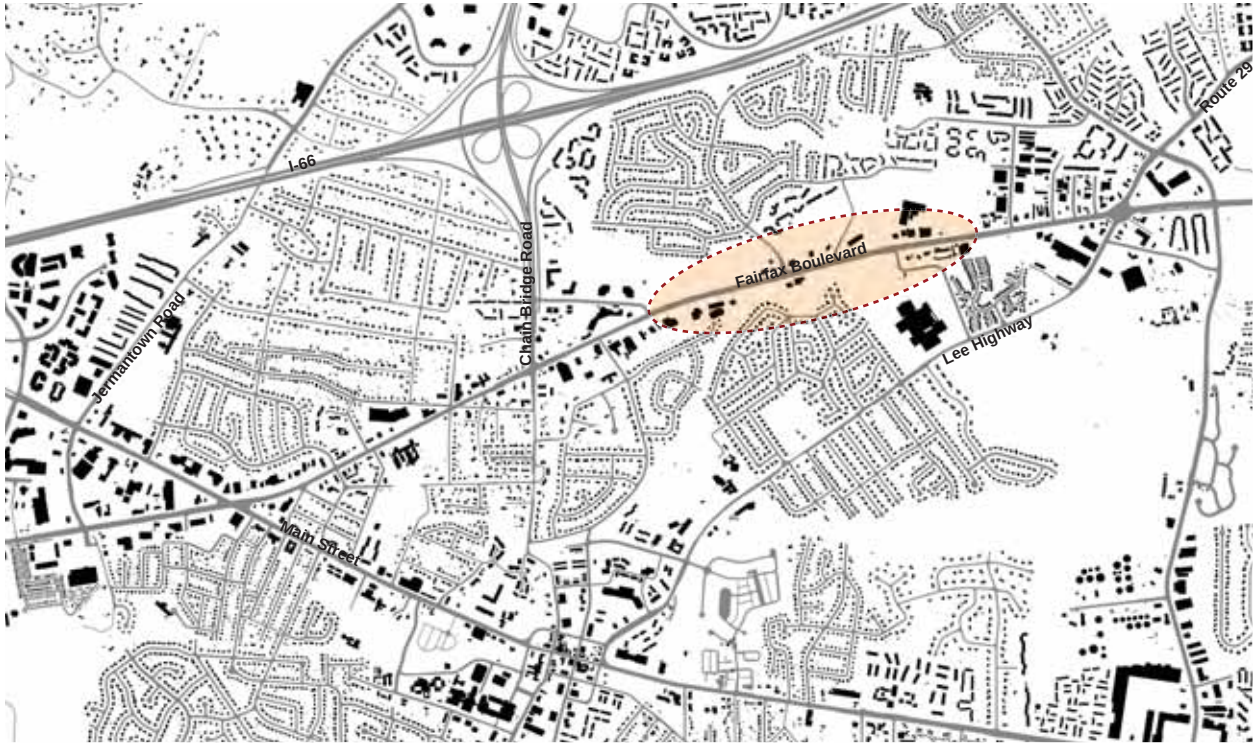
Fairfax Boulevard was compared to one of the best examples of the multi-way boulevard street type, Avenue Montaigne in Paris. With its cafes, shops, hotels, embassies and banks, Avenue Montaigne is one of the most popular streets in Paris.

Avenue Montaigne and Fairfax Boulevard possess similar characteristics: street trees, sidewalks and a comparable right-of-way. However, Fairfax Boulevard (in its current configuration) lacks a "pedestrian realm" where people and vehicles move more slowly and safely. The transportation strategy for the future of Fairfax Boulevard includes the creation of a multi-way boulevard for the corridor. Additional information on boulevards can be found in Chapter 5, Transportation.

EAST CONNECTOR

The East Connector stretches the distance between the centers of Fairfax Circle and Northfax and is comprised of a combination of development sites and open spaces. The idea with the connectors is that interventions should be minimal. On the connector's north side, Accotink Creek runs parallel to the Boulevard. The stream is buffered by a 100 foot Chesapeake Bay Resource Protection Area designation. Development in these areas is closely scrutinized for their effect on the streams and larger watershed. The City has purchased much of the land in the East Connector for conservation. It is anticipated that over time the development sites in the East Connector will be redeveloped.

The plan and accompanying illustrations demonstrate how new streets, blocks, and buildings could be configured. In the East Connector and other areas along the Boulevard, there exists the condition where there are single family homes just on the other side of a property line from existing commercial businesses. As the area redevelops, there are locations where lots are deep enough to introduce an intervening layer of residential development along a new parallel street. This layer of additional residential development would help to transition from commercial development along the Boulevard to the traditional single-family neighborhoods found adjacent to the corridor.




Sherwood Plaza


P. J. Skidoos Restaurant

Potential public park acquisition

New firehouse location

A prominent civic building is placed along the Boulevard at the end of Plantation Parkway.

Natural areas are preserved and protected from development.

Trails extend into Fairfax High School and strengthen its tie with the community.

The transition from the Boulevard to the residential development behind it is done by respecting the size and scale of the existing neighborhoods.

Buffers are located between commercial lots and their single family neighbors.

In the East Connector, and in other areas along the Boulevard, single-family homes are currently just on the other side of a property line from an existing commercial business. The plan for the Boulevard includes the addition of a parallel street network in many areas to relieve local traffic pressures off of the Boulevard and to allow for a new layer of residential development to abut the neighboring residences.

East Connector Improvements

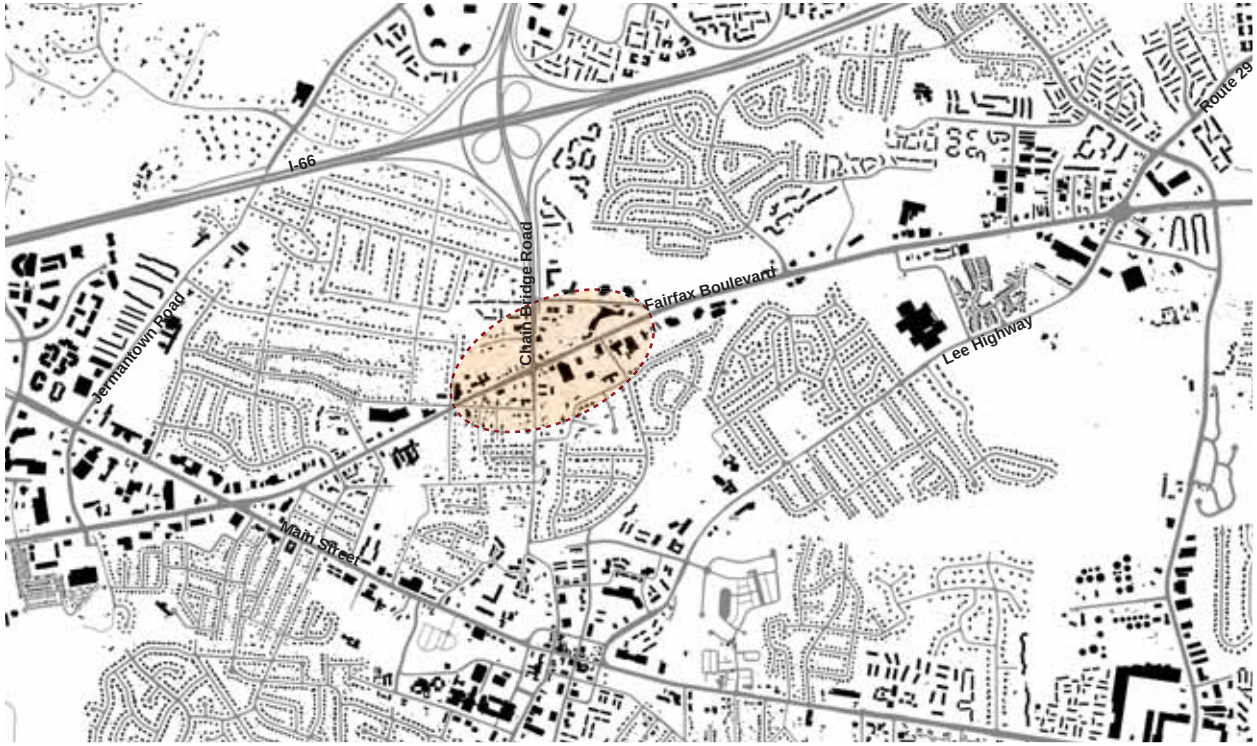
Minor adjustments to the Boulevard can make a large difference in its aesthetics and functionality. Recent streetscape improvements should not be overhauled, but rather incorporated into the continued evolution of the street space. In the future, above ground utility lines should be buried, allowing street trees to fully mature and avoiding unnecessary tree trimming for utility lines. The East Connector should be improved for additional users, such as bicyclists or transit riders who do not want to get in a car to travel between Northfax and Fairfax Circle or beyond. With minor adjustments to the current roadway, there could be enough room for cyclists to proceed safely and enough space to properly plan for future transit. A dedicated transit lane could be included, providing more efficient connections to the Vienna Metrorail Station, future Metro stops, and Old Town Fairfax. Improvements to the Boulevard to accommodate multi-modal means of travel could lead to the ability to circulate between places along the Boulevard and beyond by using other means of travel besides the automobile.

NORTHFAX

The name “Northfax” refers to the area centered at the intersection of Chain Bridge Road/Route 123 and Fairfax Boulevard. Chain Bridge Road connects with Interstate 66 to the north and Old Town Fairfax to the south. Northfax is considered by many Fairfax residents and business owners as the heart of the Boulevard.

The area between Fairfax Boulevard and Eaton Place presents one of the best opportunities to convert aging strip shopping centers (most were built in the 1960s and are in need of replacement), suburban car dealerships, and surface parking lots into a network of town blocks. The plan proposes multi-story buildings with retail on the ground floor and other uses above like offices and residences. Overhead utility wires are removed and the geometry of the intersection is reconfigured to accommodate the planted medians, street trees, sidewalks, street lights, slow lanes and parallel parking necessary for a classic boulevard. The majority of the parking is accommodated on-street and in mid-block parking locations. The buildings which line the streets give the area its character, not the expanses of parking that currently surround the intersection.

The connected street network that characterizes the northern side of Fairfax Boulevard supports a “park once” option. Visitors can park and then travel to multiple stores and services on foot along the tree-lined sidewalks. Farther distances needed for local trips can be driven on the slow lanes; regional trips can then occur on the through lanes of the Boulevard. This contrasts with the typical pattern of suburban development where each destination requires a trip along the Boulevard.



Fairfax Boulevard, looking east towards the intersection of Chain Bridge Road

Fairfax Shopping Center


Diner 29, one of the oldest establishments on the Boulevard.
A main street is formed along Eaton Place with street-oriented buildings along both sides of the street.
Possible hotel location
Extending University Drive would provide better vehicular and pedestrian connections.
The urban car dealership would have a street-oriented showroom with a parking garage to store cars.
Willow Wood Office Complex
Expanded trail network
Eaton Place
Chain Bridge Road
Fairfax Boulevard
University Drive
Pedestrian cross-walks are provided at every lighted intersection.
Green spaces help provide unique pedestrian experiences.
Blocks are sized to accommodate structured parking.
Stormwater features are integrated into public spaces.
Civic buildings enhance the sense of community.
The boulevard style slow lane provides increased visibility and access.
New parallel routes relieve pressure from the Boulevard.
Commercial lots transition to residential neighborhoods.

The above sequence is designed to illustrate the idea that change will happen incrementally, over time. It is hard to predict which property will redevelop first, but it is important to remember that the complete redevelopment of the Boulevard will not happen overnight. The City will make public infrastructure improvements while investors and property owners build new buildings.

The Fairfax Boulevard Master Plan shows one of many ways that Northfax can be reconfigured and redeveloped over time. Understanding that redevelopment will occur over many years due to existing leases and market feasibility, the plan for Northfax is designed to include a phase-able strategy to accommodate the transformation of the area over time. Organizing the area into an interconnected street and block network, the plan demonstrates how existing buildings can be incorporated into the long-term plan for the Boulevard. As opportunities for redevelopment and infill development arise, development should be centralized into a specific area rather than scattered throughout the center. In doing so, the property owners as well as Fairfax residents can realize the physical vision of how car dealerships and strip shopping centers can evolve from a typical suburban commercial space to a livable, memorable center. A mix of uses should be accommodated throughout the area, providing for continued retail opportunities while also allowing for residential and additional office components.

An essential element in the transformation of Northfax is the way parking is handled in the area. Today there is surface parking in the front of the buildings. In order to accommodate a large expanse of parking, the buildings are set back far from the street. Parking is single-purpose, meaning that the available parking only serves individual businesses; there is little to no shared parking. Parking in Northfax needs to evolve from a suburban model of parking requirements and dimensions to one that accommodates a more urban, mixed-use environment. The plan for the future of Northfax calls for shared parking and for parking to be handled on-street (on existing and new streets) as well as in mid-block structures.

The redevelopment of the Northfax area (looking east) transforms this important intersection into a destination and gathering place for residents and visitors. Buildings and public spaces address the street and create a pedestrian-friendly environment. Slow lanes separate through traffic from local travel and allow easy access to shops, restaurants, workplaces, and residences.

Today: The existing conditions on Fairfax Boulevard are those of a suburban arterial roadway; the street is focused on automobile travel and is not pedestrian-friendly. This view, looking west along the Boulevard towards University Drive, demonstrates a typical condition where buildings are placed far from the street and large parking lots line the Boulevard. This condition is a result of current zoning regulations which require deep front setbacks and large parking requirements.

Initial Improvements: A slow lane is added parallel to the Boulevard, forming the framework for a proper grand boulevard. A second row of street trees are planted and a wide sidewalk is included adjacent to the slow lane. On-street, parallel parking is included within the slow lane, providing the foundation for street-oriented buildings. The slow lane includes a narrow travel lane which decreases the speed of vehicles, making the street a safe and comfortable place for cyclists, pedestrians, and vehicles.

Continued Improvements: With the introduction of the slow lane, Fairfax Boulevard becomes an address worthy of street-oriented buildings. Mixed-use, multi-story buildings front the sidewalk with doors and windows facing the street. Parallel parking allows easy access to stores and restaurants.

Long-term Vision: The pattern of redevelopment continues with both sides of the streets filling-in and becoming more complete. Over time, development along the corridor evolves from buildings located far apart in expansive parking lots to a coherently shaped street space where buildings engage the street and create a vibrant public realm. On the south side of the Boulevard, McKay Chevrolet is transformed into a visible, urban car dealership where cars are showcased in a beautiful storefront. University Drive is extended across the Boulevard and a traffic signal and crosswalks are added to assist pedestrians with crossing the Boulevard.

Computer visualizations created during the charrette help to demonstrate how future development would contribute to the existing urban fabric. Wider sidewalks, street trees, and crosswalks are just some of the details that will make Fairfax Boulevard a place where cars and pedestrians can coexist in harmony. Civic buildings, small greens and squares all create great addresses, as well as identifiable meeting places along the Boulevard. The mix of residential and commercial uses will make Fairfax Boulevard a 24-hour destination and a more vibrant place.

A. An access lane is added adjacent to the Boulevard, making a great address for existing business and new development.

B. A pavilion is the central feature of the small plaza. The pavilion could be used for either civic or commercial activities.

C. An urban hotel becomes a prominent feature along Chain Bridge Road; a sidewalk cafe adds to the street's vitality.

D. Street-oriented buildings are located along a new street, with retail uses on the ground floor and residences or offices on the upper floors.

E. Shops and residences look out onto a neighborhood green.

F. Intersections are redesigned to accommodate safe crossings for pedestrians. Brick pavers are added to the intersection to help to tell cars to slow down.

G. Parallel to the Boulevard access streets are designed for slower speeds and increased pedestrian comfort.

H. The new main street is terminated by a civic building, offering a mix of uses in a pedestrian-friendly setting.

EXISTING ENVIRONMENTAL CONDITIONS AND RECOMMENDATIONS

North Fork Accotink Creek bank erosion at Orchard Street

North Fork Accotink Creek heads underground when it reaches Fairfax Shopping Center.

Stormwater collected on site can be used as a public amenity creating one-of-a-kind public spaces.

Water should be treated as part of the civic art and part of a place to cherish.

Restoration efforts on Accotink Creek

The plan for Fairfax Boulevard is not just about streets and the built environment, but it is also about the green network. While great improvements have been made, the existing drainage system does not consider water as a precious resource, but rather as a nuisance to be channeled and eliminated as quickly as possible. The environmental goals of the Master Plan are to:

- activate the public realm
- use infrastructure for multiple purposes
- implement watershed management practices

RECOMMENDED HYDROLOGICAL REFORM consists of:

- treating water as a precious resource
- development of a broad palette of options
- integrating management practices
- incorporating rainwater oriented “civic art” to enhance the human landscape
- relieving flooding at Chain Bridge Road
- handle water resources upstream to treat and reduce velocity before it enters the creek
- provide adequate storage and runoff control

GREEN INFRASTRUCTURE strategies include:

- continue restoration efforts on the north fork of Accotink Creek
- protected network of land and water areas
- maintain/improve ecological processes
- watershed life support system

STORMWATER strategies include:

- reducing the velocity of stormwater flows
- collecting and spreading the water into multiple areas
- getting water into the ground for storage and recharge

Recommendations for FAIRFAX CIRCLE include:

- coordinating stormwater improvement efforts with county and large property owners
- disconnecting large expanses of pavement
- redirecting drainage to green & pervious areas adjacent to Accotink Creek
- on-lot stormwater practices throughout catchment area
    - underground cisterns and storage devices
    - sand filter, wet wells and other BMPS
    - “eco-design”

Recommendations for NORTHFAX include:

- continuing stormwater improvements
- relocating Accotink Creek collection point to area north of orchard street
- connecting green & pervious areas with each other for multi-functional open space
- integrated stormwater management practices
    - underground
    - sand filter
    - “eco-design”

Recommendations for Kamp Washington include:

- continuing stormwater improvements
- disconnecting large expanses of pavement
- re-connecting green & pervious areas
- on-lot stormwater practices
    - underground storage
    - sand filter
    - “green-design”

Recommendations for Connector Areas include:

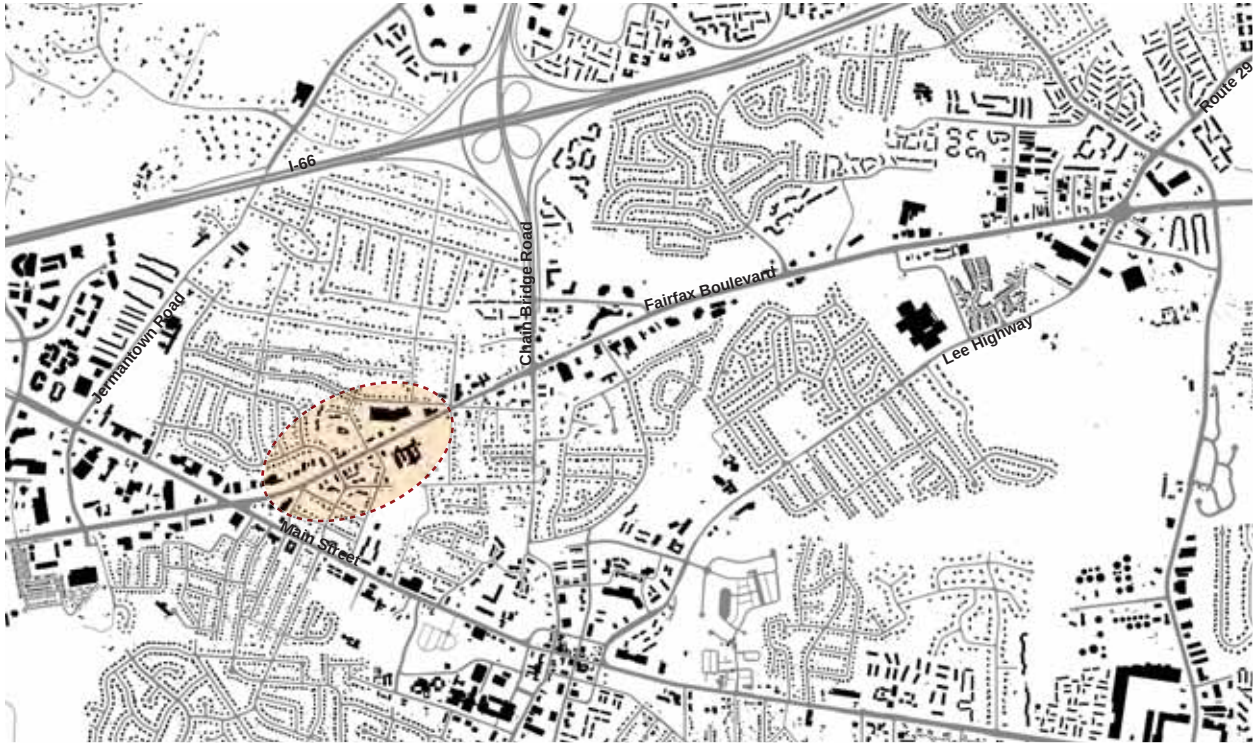
- boulevard medians and planted areas provides “green relief”
- controlling stormwater outfalls throughout
- preserving hillsides, tree areas, and drainage basins, view promontories

Unique stormwater management features can become public amenities instead of burying water underground.

Proposed green network

WEST CONNECTOR

Located between McLean Avenue to the east and the eastern edge of Kamp Washington to the west, the West Connector hosts a variety of commercial uses on relatively shallow lots. Due to its current configuration of shallow commercial parcels that abut residential properties, the West Connector is perhaps the most complicated area of the Boulevard. The plan demonstrates an understanding that there is not going to be the depth in properties to do elaborate things, like at the Fairfax Circle or Northfax. In the West Connector, simpler interventions are needed. The Master Plan sites new buildings closer to the boulevard and better mitigates the presence of the commercial uses on single-family neighbors. In order for the physical form of development change, the regulations need to change. Development in the connectors needs to be sensitive to surrounding neighbors and concerns must be addressed in the regulations to achieve the built results Fairfax residents desire.



Fairfax Boulevard looking east towards Paul VI Catholic High School

Shops at Fairfax shopping center

Interconnected parking lots near the Hampton Inn hotel

Smaller footprint buildings help transition off of the Boulevard.

Neighborhood greens become special places along the Boulevard.

Providing parking in the rear helps streets become pedestrian-friendly.

Blocks are sized to accommodate structured parking.

Pedestrian crosswalks are provided at every lighted intersection.

Green buffer zones are located between commercial lots and single-family neighborhoods.

Boulevard-style slow lanes provide increased visibility to shops and restaurants.

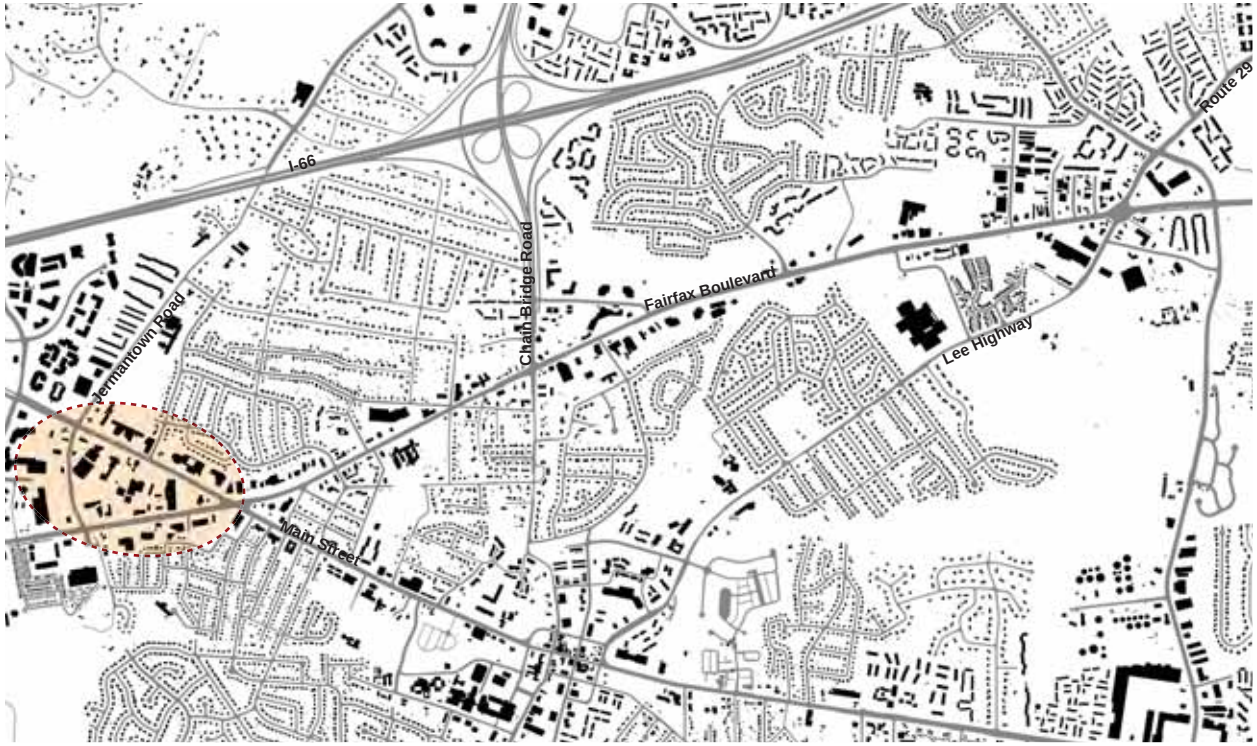
The Breezeway Motel site is redeveloped as a mixed-use project: multi-story buildings face the Boulevard and townhouses line new streets.

KAMP WASHINGTON

Kamp Washington is located at the western edge of the Fairfax Boulevard Business Improvement District (BID) at the BID's highest elevation. A triangular shape of roughly 40 acres is created between Main Street, Fairfax Boulevard, and Jermantown Road. Outside of the triangle commercial businesses border residences.

While many of the recommendations proposed for Northfax could apply to Kamp Washington, Kamp Washington is more complicated because of the oddities of geometry and fragmented property lines. The plan proposes that the super block triangle be broken up with a grid of streets which will create frontage for mixed-use commercial and residential buildings and access the underutilized area inside the triangle. A range of squares, plazas, and greens with edges defined by urban architecture create destinations within the triangle. The plan includes a network of blocks and streets that include a range of block sizes so that there are multiple options for locating parking.

The reconfiguration of Kamp Washington could include the consolidation of car dealers into an "auto district". The unique district would be a place where multiple makes of cars are available to shoppers in a park-once, shop-once walkable district. Showrooms could be configured in street-oriented urban formats to reinforce the character of the district, while inventory could be stored in one or more consolidated garages for land efficiency.




A suburban car dealership


Existing office building

Blocks are sized to accommodate structured parking.

Neighborhood greens become special places along the Boulevard.

The design anticipates incremental development.

Jermantown Cemetery

Large blocks are turned into smaller, pedestrian-scaled blocks.

Pedestrian cross-walks are provided at every lighted intersection.

Buffers are located between commercial lots and single-family neighborhoods.

The boulevard style slow lane provide s increased visibility to shops and restaurants.

Future development in Kamp Washington will occur on smaller sized blocks allowing for increased connectivity and pedestrian activity. While the through lanes are preserved, boulevard-style slow lanes and shorter crossing distances help make pedestrians feel safe in a once auto-dominated environment.

The new development should be planned according to the form-based code. The code would include regulations to control building height and form, as well as a list of materials and architectural configurations that would assure quality. The form-based code can be made strict or liberal with regards to architectural style, permitting traditional architecture or a mix of styles.

transportation analysis 5

BACKGROUND ANALYSIS

The Fairfax Boulevard Master Plan provides for the organized redevelopment of the corridor and addresses specific recommendations for the physical improvement of the roadway. Through careful planning and engineering, the street can become a "great street"; a street that handles the movement of automobiles while also providing great addresses for the economic revitalization of the area.

During the March 2007 design charrette, Hall Planning & Engineering (HPE), traffic engineering, worked as a central component in the design process to further transform the character of this important Fairfax roadway. The charrette included interviews with stakeholders to identify transportation issues, as well as an examination by HPE of the area's transportation context. HPE studied traffic speeds and street designs in a sample of Fairfax locations, conducted interviews with City Public Works, Fire Department, Engineering and Planning staff, as well as met with local citizens, business owners and developers.

This chapter highlights specific roadway improvements; additional information on the transportation analysis can be found in Appendix C.

Fairfax Boulevard today

The City of Fairfax serves as a regional suburban transportation system for Northern Virginia and Washington, D.C. and has experienced four generations of commuters. The first generation, rural in nature, was marked by east/west travel along Fairfax's smaller main street highways and routes, such as Route 236. The second generation of travelers began utilizing the higher capacity east/west arterial of Fairfax Boulevard or Lee Highway (Route 29/50). The third was served by Interstate 66, just north of Fairfax Boulevard, but as the interstate becomes increasingly congested, traffic returns to Fairfax Boulevard and Route 236. The fourth generation of commuters is marked by increased transit use, such as the Metrorail and the City University Energysaver (CUE) bus.

Existing Conditions

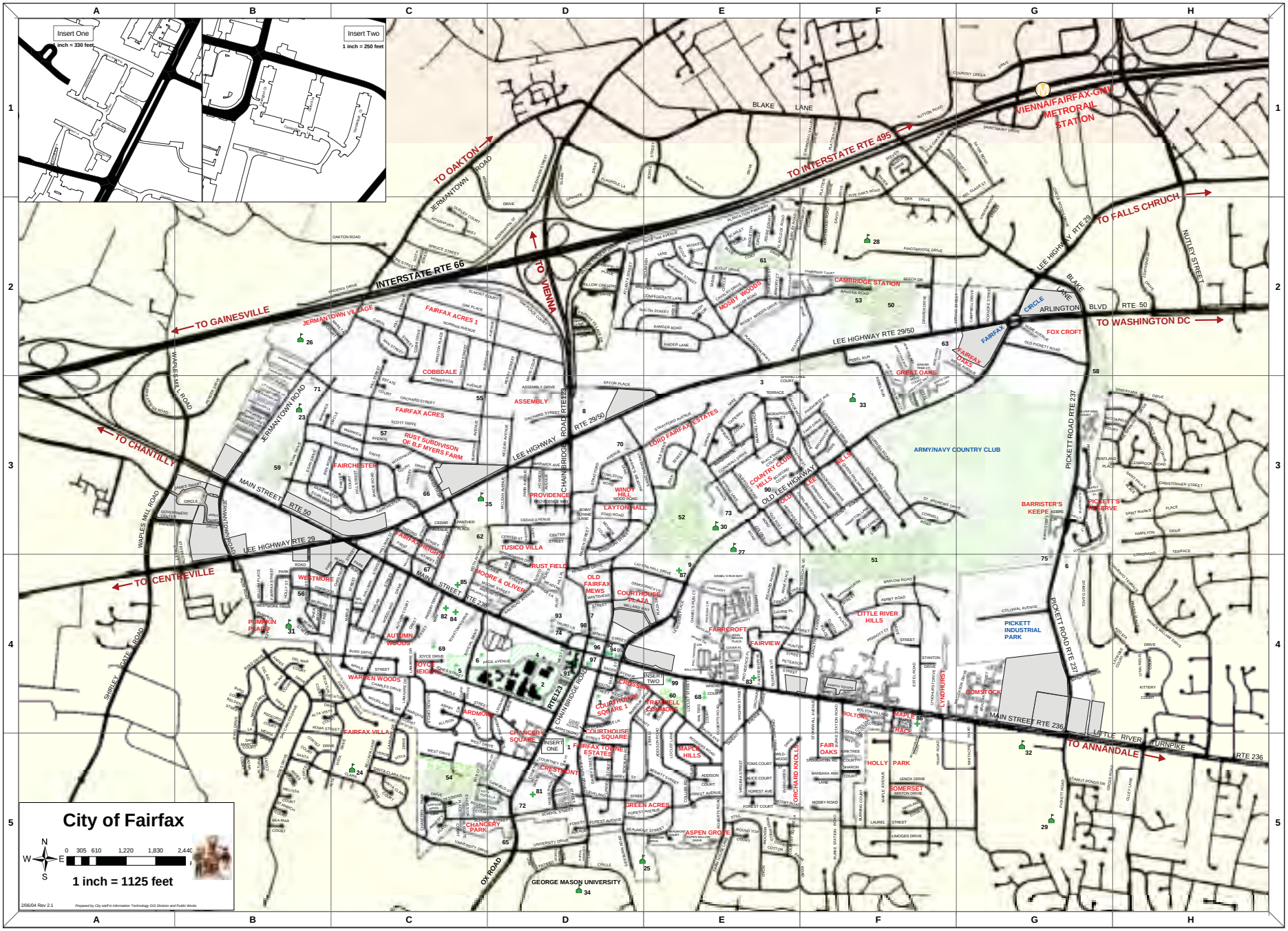
The City's predominate regional travel pattern is east/west, while demands for north/south travel have increased over the last several decades. The 2003 U.S. Census highlights that new commuter travel demands movement throughout Northern Virginia and Maryland, not just travel to Washington, D.C. from surrounding suburbs. In the metropolitan area, the City of Fairfax witnesses the third highest number of workers who commute to its jurisdiction from another locale.

Fairfax Boulevard plays a dominate role in the City's regional transportation system as it still serves as a major east/west commuter route to and from Washington, D.C. The intersections of Lee Highway and Fairfax Boulevard (Fairfax Circle), Chain Bridge Road and Fairfax Boulevard (Northfax), and Main Street and Fairfax Boulevard (Kamp Washington) are the intersections experiencing the greatest peak hour congestion from commuter traffic. The City has constructed a series of north/south connectors to alleviate some of the congestion realized at Fairfax Boulevard's key intersections with the Blake Lane/ Pickett Road connection, the improvement of Shirley Gate from Braddock Road to Route 29, and the completion of Waples Mill Road. While attempts have been made to alleviate congestion, street improvements have been focused solely on the automobile with very little consideration for walkability. The quality of life for Fairfax residents and visitors has diminished along with the vitality of the Boulevard.

As commuters continue to utilize the Fairfax street network and transit use increases, there is a great opportunity to revitalize Fairfax Boulevard. Balancing the need to move regional commuters through the area, while providing safe and efficient multi-modal travel, is a challenge best met by mixed land use and traditional transportation design that optimizes opportunities for capacity, vehicular speed and modal choices. This challenge can be addressed by redeveloping Fairfax Boulevard within the context of the vision identified during the planning charrette– to redesign Fairfax Boulevard as a tree-lined, multi-way boulevard. The multi-way boulevard will improve its appearance and create a more pedestrian-friendly and inviting shopping, business, and residential environment. Redevelopment plans should control direct access from individual properties, emphasize pedestrian accessibility, and improve public transit use to balance Fairfax Boulevard as a commuter route and vibrant business corridor.

Fairfax Boulevard Traffic Volumes

Fairfax Boulevard is characterized in the City's 2004 Comprehensive Plan as "the backbone of the City's economy, serving a dual role as a principal mover of traffic through the City and as a concentrated business boulevard with important focal areas and major City gateways." It is one of four



Fairfax City Street Map

major transportation corridors within the City (the others are Main Street, Chain Bridge Road, and Pickett Road). According to 2005 traffic counts conducted by the Virginia Department of Transportation, Fairfax Boulevard is carrying the highest traffic volumes of these four corridors with annual average daily traffic (AADT) ranging from 59,000 at the western edge of the Boulevard and 34,000 east of Fairfax Circle (see Table and Figure 1).

Traffic Trends

According to Virginia Department of Transportation estimates of daily traffic volumes, Fairfax Boulevard traffic volumes have either remained stable, or have declined over the period 2001 – 2005 (see Table 2).

Estimated Peak Service Volumes

Utilizing generalized tables based on *Highway Capacity Manual* definitions and methodology, HPE estimated the current Fairfax Boulevard PM peak hour/peak direction maximum service volume as:

- 4-lane section: 1,860 vehicles per hour
- 6-lane section: 2,790 vehicles per hour

These estimates are based on an assumed level of service "D" and a signalization range of 0.0 to 1.99 traffic signals per mile (see Table 3).

A comparison of estimated PM peak hour traffic volumes to maximum service volume indicates the Fairfax Boulevard segments closest to capacity are:

- West City Limits to US 29S/Lee Highway
- SR 237/Pickett Road to the East City Limits

Table 1: 2005 FAIRFAX BOULEVARD TRAFFIC VOLUMES[1]

From	To	Length (miles)	AADT[2]	K-Factor[3]	D-Factor[4]	% Bus[5]
West City Limits	US 29S/Lee Hwy	0.57	59,000	0.0785	0.5216	0%
US 29S/Lee Hwy	Chain Bridge Rd	0.96	36,000	0.0755	0.6111	0%
Chain Bridge Rd	University Dr	0.21	36,000	0.0742	0.5794	0%
University Dr	Plantation Pkwy	0.59	43,000	0.0729	0.5748	0%
Plantation Pkwy	Draper Dr	0.68	42,000	0.0774	0.5702	0%
Draper Dr	US 29N/Lee Hwy	0.28	37,000	0.0824	0.6037	0%
US 29N/Lee Hwy	SR 237/Pickett Rd	0.28	34,000	0.0780	0.5357	0%
SR 237/Pickett Rd	East City Limits	0.03	40,000	0.0811	0.5722	0%

[1] 2005 Daily Traffic Volume Estimates: City of Fairfax Report 151 (Virginia Department of Transportation)
[2] Annual Average Daily Traffic (AADT)
[3] Peak hour factor – estimate of the portion of traffic volume traveling during the peak hour
[4] Directional factor – traffic volume traveling in the peak direction during the peak hour
[5] Percent of the traffic volume made up of busses

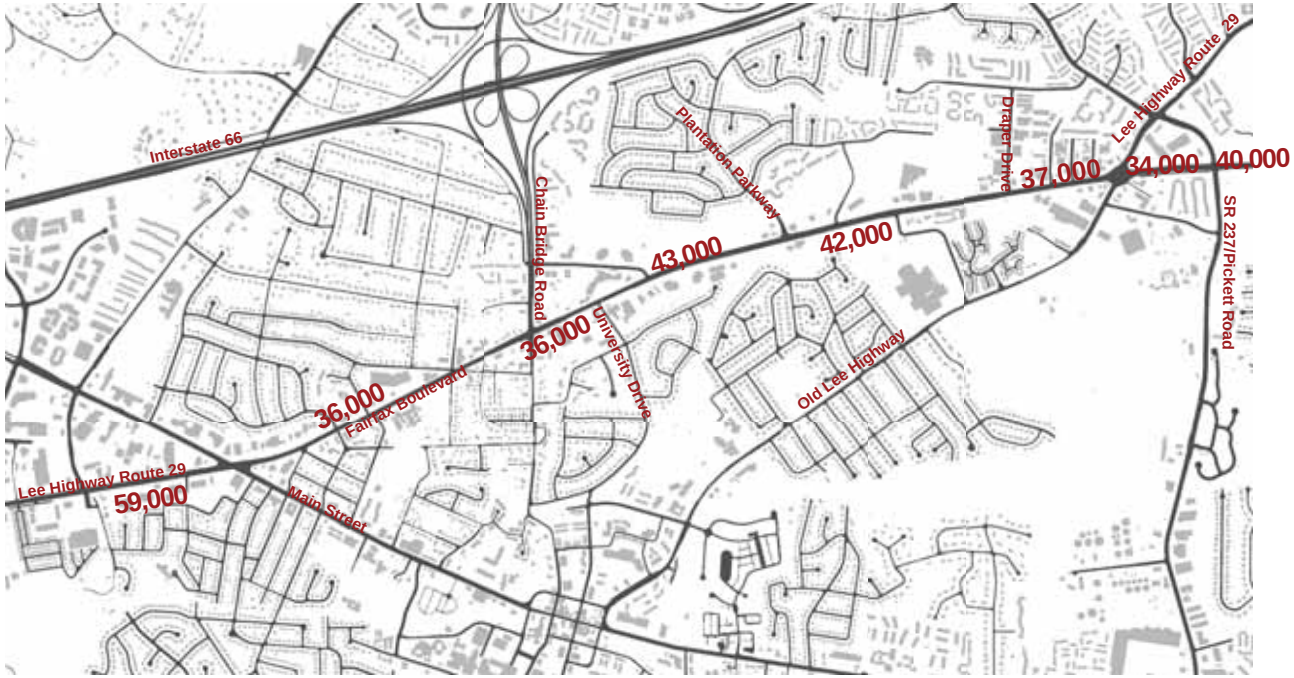


Figure 1: Existing traffic counts on Fairfax Boulevard

Current Fairfax Boulevard Level of Service

The measures of traffic flow indicate the relatively flat growth in daily traffic noted in Table 2. For these 8 segments of the Boulevard, none have 2005 daily volumes greater than the highest volume measured since 2001. This generally indicates a corridor that has reached capacity and is in the process of spreading into other hours in the peak period. Levels of service (LOS) for the Fairfax Boulevard segments were evaluated using the Synchro traffic operations program.

The LOS is a single letter that reflects a variety of different measurements, including travel delay, queuing, vehicle volume versus capacity, travel speed, and others. The LOS letters, which range from A through F, are similar to but not analogous to letter grades on a school report card. Essentially, LOS A indicates a street or intersection that is lightly-used and possesses much more capacity than needed for given traffic volumes, present or future. LOS B and C indicate progressively busier intersections that may also have greater capacity than is needed for current traffic demands. LOS D and E indicate intersections that are approaching their traffic-handling capacity for a given peak hour. These intersections move higher volumes of traffic. Because streets and intersections are expensive to build and maintain, many if not most cities specify LOS D or E as an acceptable LOS on their transportation network. Operating at LOS D or E ensures that intersections are performing at their most effective traffic-handling capacity.

LOS F indicates that a street or intersection has greater demand than capacity for a given peak hour. In such instances, travelers accept a trade-off of motor vehicle congestion and traffic delay in exchange for greater balance with other travel modes and the preservation of other desirable qualities.

City of Fairfax consultants prepared these program inputs for the base condition using current traffic counts and signal settings. Resulting LOS estimates for the PM peak hour are summarized in Tables 4 and 5.

These tables illustrate that for most segments of Fairfax Boulevard, traffic is flowing at a level of service "D" or better, with few exceptions at Chain Bridge Road, Pickett Road, Jermantown Road and Lee Highway, which represent the intersections that serve heavy north/south volumes, as well.

Overall westbound level of service between Pickett Road and Chain Bridge Road is "C", while decreasing to level of service "E" between McLean Avenue and Jermantown Road. The detailed Synchro analysis can be found in Appendix C.

Observations of AM peak traffic on the eastern end of the study area show that Fairfax Circle experiences some spillback from the 4 lane sections east on Arlington Boulevard/Route 50. The lane reduction from 6 to 4 total through lanes causes this queuing, in conjunction with northbound

Table 2: HISTORICAL FAIRFAX BOULEVARD TRAFFIC VOLUMES[1]

From	To	2001 AADT[2]	2002 AADT[2]	2003 AADT[2]	2004 AADT[2]	2005 AADT[2]
West City Limits	US 29S/Lee Hwy	34,000	63,000	62,000	61,000	59,000
US 29S/Lee Hwy	Chain Bridge Rd	29,000	36,000	33,000	33,000	36,000
Chain Bridge Rd	University Dr	37,000	39,000	36,000	36,000	36,000
University Dr	Plantation Pkwy	45,000	44,000	40,000	40,000	43,000
Plantation Pkwy	Draper Dr	37,000	43,000	38,000	38,000	42,000
Draper Dr	US 29N/Lee Hwy	44,000	45,000	40,000	40,000	37,000
US 29N/Lee Hwy	SR 237/Pickett Rd	28,000	35,000	35,000	34,000	34,000
SR 237/Pickett Rd	East City Limits	44,000	45,000	45,000	44,000	40,000

[1]2001 - 2005 Daily Traffic Volume Estimates: City of Fairfax Report 151 (Virginia Department of Transportation)
[2]Annual Average Daily Traffic (AADT)

Table 3: ESTIMATED 2005 PM PEAK HOUR TRAFFIC VOLUMES

From	To	Travel Lanes	Peak Direction	Off-Peak Direction	Max Service Volume
West City Limits	US 29S/Lee Hwy	4L	2,416	2,216	1,860
US 29S/Lee Hwy	Chain Bridge Rd	4L	1,661	1,057	1,860
Chain Bridge Rd	University Dr	4L	1,548	1,124	1,860
University Dr	Plantation Pkwy	6L	1,802	1,333	2,790
Plantation Pkwy	Draper Dr	6L	1,854	1,397	2,790
Draper Dr	US 29N/Lee Hwy	6L	1,841	1,208	2,790
US 29N/Lee Hwy	SR 237/Pickett Rd	4L	1,421	1,231	1,860
SR 237/Pickett Rd	East City Limits	4L	1,856	1,388	1,860

right turning traffic at the Pickett Road intersection. This condition will continue regardless of the 4 or 6 lane configuration of Fairfax Boulevard in the study area to the west or the roundabout design for Fairfax Circle. The design approach for all of Fairfax Boulevard should be one of "capacity balancing" instead of simply increasing number of lanes wherever possible. Walkability of the streets in the vicinity of Fairfax Circle, Northfax, and Kamp Washington, through diligent speed management, is also critical and blends with this balanced approach to street design.

Signals / Timing

Current signal timing is effective for the operational goals now set for Fairfax Boulevard. Generally, the traffic signals will need monitoring and adjustment to match the balanced design that seeks greater walkability for areas near the town centers. Speeds should be posted at 30 mph for Fairfax Boulevard and 25 mph for streets internal to the town centers. Eaton Place should be set at 30 mph.

Several added traffic signal locations will likely be needed as town center streets are designed and constructed. Pedestrian crossings for all four approaches to each intersection will also be required to achieve desired walkability. The added green time dedicated to the pedestrian phases will slightly reduce the LOS for each intersection but greatly enhance the pedestrian and bicycle potential along the corridor. Each new signal and crosswalk will address the pedestrian concerns to facilitate successful redevelopment of the Boulevard.

Table 4: ARTERIAL AND INTERSECTION LEVEL OF SERVICE: EAST FAIRFAX BLVD

Segment Cross St	Intersection LOS	EB Arterial LOS	WB Arterial LOS
Chain Bridge Rd	F	F	E
University Dr	D	E	D
Eaton Place	C	C	C
Plantation Way	B	B	C
Stafford Dr	A	B	B
Rebel Run Dr	A	C	B
Draper Dr	C	B	C
Old Lee Hwy	B	C	D
Pickett Rd	F	F	C
Average LOS	NA	D	C

Table 5: ARTERIAL AND INTERSECTION LEVEL OF SERVICE: WEST FAIRFAX BLVD

Segment Cross St	Intersection LOS	EB Arterial LOS	WB Arterial LOS
Jermantown Rd	F	E	F
Bevan Dr	B	C	C
Lee Hwy	F	F	E
Fairchester Dr	A	B	C
Oak St	B	C	D
McLean Ave	D	D	F
Average LOS	NA	D	E

Fairfax Boulevard – Designing a "Great Street"

From a transportation planning context, HPE recognizes a fundamental tension in the design of Fairfax Boulevard between the need to move large volumes of traffic and the desire to create a walkable thoroughfare. In order to to balance this tension, the planning team recommends the following strategies:

1. Identify a specific urban design vision for the Boulevard
2. Transform Fairfax Boulevard into a multi-way boulevard
3. Create walkable thoroughfares
4. Improve the special intersections at the nodes
5. Rethink the way parking is handled
6. Enhance and increase transit opportunities

1. Identify a specific urban design vision for the Boulevard

Much of America's suburban land development pattern results from street and highway networks dictating its structure. Highways designated as arterials change little as they approach developed areas. Generally speeds drop from 55 to 45 or 35 mph, but on-street parking is usually not allowed in emerging areas and is often removed from older areas. Arterial street designs, by definition, tend to exclude intersections with side streets of limited volume, leading to longer block size (600 to 1,000 feet and higher) and higher speeds 45 mph or more, both of which cause difficulty for pedestrians. The arterial design concept emerged from a rural heritage and rarely serves urban peak travel demand well due to exclusive reliance on the single facility serving a single mode of travel – the motor vehicle.

To achieve urban places that encourage (and thrive with) pedestrians, bicycles, and transit vehicles as part of the mobility mix, the patterns of proposed development must be specified first, during the community planning stage. Then, transportation plans for balanced mobility can be crafted with walkability considered first and vehicle mobility second. This is not to imply that motor vehicle mobility will be dramatically reduced, but that pedestrians, being exposed to the open environment are more vulnerable than when they are drivers, and solutions for their comfort are more complex. Often, greater walkability yields only small reductions in vehicle capacity, even though vehicle speeds are lower. Generally more streets per square mile result from a more open network and drivers can avoid the degree of peak hour congestion that occurs when a limited number of large streets break down.

One of the key urban design visions for Fairfax Boulevard, as described by the community and refined by the design team during the charrette, is to make the Boulevard a walkable 'great street.' This vision strongly influenced the transportation design criteria for Fairfax Boulevard. The return to a walkable and vibrant corridor requires managing traffic speeds to pedestrian friendly levels and ensuring connectivity of the street system. To accomplish this vision, HPE recommends the use of walkable thoroughfares for specific sections of the study area, as described in the proceeding pages.

2. Transform Fairfax Boulevard into a multi-way boulevard

To balance vision and constraints, the proposed overall design of Fairfax Boulevard is a type of Multi-way Boulevard. A multi-way boulevard is a street design that can simultaneously handle large volumes of through traffic while encouraging street-front development appropriate for an urban center. The concept and operating characteristics of multi-way boulevards are described comprehensively by Allen Jacobs and Elizabeth McDonald in *The Boulevard Book*, the source for much of the information related here.

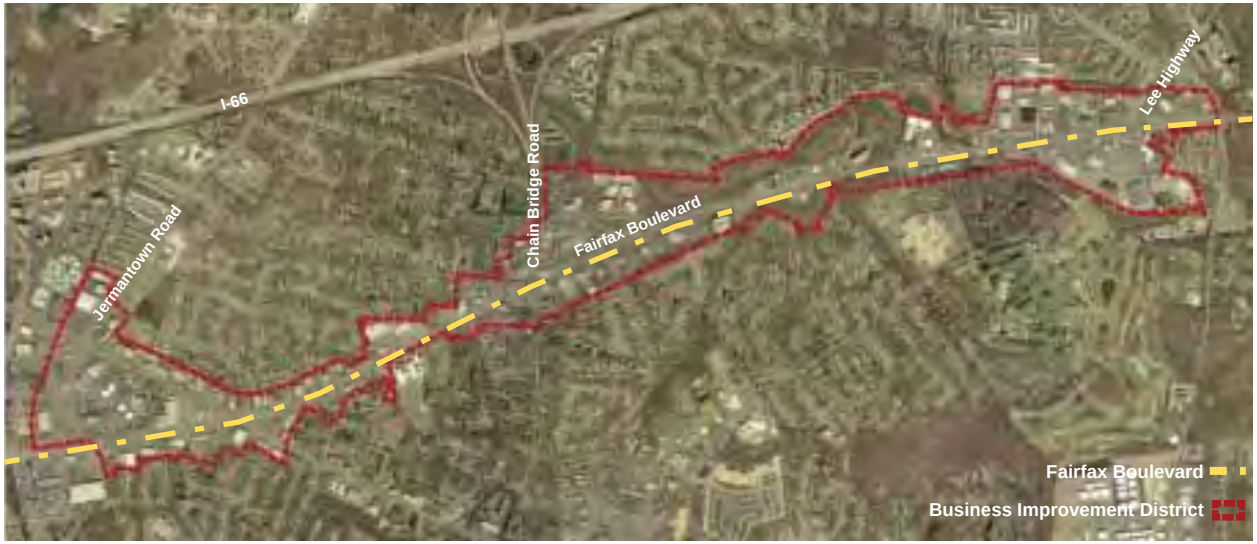


Figure 2: Aerial view of the study area

Figure 3: The network of streets adjacent to the boulevard provides for local circulation.

The multi-way boulevard is a time-tested concept found worldwide. Several exceptional examples were built at the end of the 19th century in New York, and modern multi-way boulevards have been constructed more recently in Chico, California and San Francisco, California.

Structure of a Multi-way Boulevard

The center of a multi-way boulevard is comprised of 4 or 6 lanes. These lanes serve the traditional function of an arterial street – to move automobiles as quickly and safely as possible. The center lanes are considered the "motor vehicle realm", and most design considerations follow the motor vehicle mobility function, as with contemporary arterial design. A key concession to pedestrians is that speeds are managed in the 30 to 35 mph range by techniques such as narrower lanes and shorter blocks.

On either side of the center lanes are wide park-like medians with shared-use paths, an adjacent one-way access lane, a lane of on-street parking, a wide sidewalk, and street-front buildings. Some variations have parking on both sides of the one-way access lanes, depending on development intensity. The one-way access lanes are designed for speeds of 15 mph. This area, from the inner edge of the median adjacent to the center travel lanes to the front of the buildings, is considered the "pedestrian realm". Within this area, design considerations place the pedestrian function first, with great walkability as the primary design goal. Illustrated in Figure 3, the network of streets behind the buildings provides for local circulation. Fairfax Boulevard will require a similar network.

Function of a Multi-way Boulevard

Each element of the multi-way boulevard illustrated in Figure 4 functions in a unique manner as described below:

Center Through Lanes: These lanes do the "heavy-lifting" of traffic movement, allowing large volumes of traffic to pass through the area. They also bring potential customers within viewing distance of the shops and storefronts built along the boulevard edges.

Wide Park-like Median: These side medians mark the beginning of the pedestrian realm. Planted rows of trees provide enclosure, helping to manage center street speeds. The median provides shade and protection for pedestrians and the shared-use path allows bicycling, roller-blading, and strolling, with ample benches and pedestrian features. The median is a centerpiece of the boulevard design.

Access Lanes: The multi-way boulevard's one-way access lanes extend parallel to the central lanes serving as parking access lanes. These one-way connections serve the following functions:

- Provide a quiet lane for the store fronts facing the boulevard, analogous to a park view main street due to the wide median
- Provide vital on-street parking and pedestrian connections between blocks
- Allow locally circulating traffic to make easy right-hand turns while circling the block, looking for parking
- Allow local traffic to access parking without using the center lanes

Wide Sidewalk: Sidewalks adjacent to parking allow pedestrians to circulate freely between store fronts, parking spaces and the median park area.

The wide sidewalks provide necessary space for pedestrian shopping and travel needs while still leaving room for sidewalk café tables, a sidewalk sale rack and of course street trees and plantings. Buildings should be located immediately behind the sidewalks to maintain pedestrian convenience and to establish the street wall.

Store Fronts: Retail frontage provides economic viability for town center and other retail areas. On-street parking on arterial streets is often removed when posted speeds are increased to 40 or even 55 mph, destroying the viability of main street and town center shops. Store fronts at the edge of sidewalks, facing multi-way boulevards benefit from reasonable access to passing traffic and a calmed, walkable lane frontage that functions like the traditional downtown park street. The store fronts also send a clear message that this is the "town center", a message that is difficult to convey with conventional arterial design.

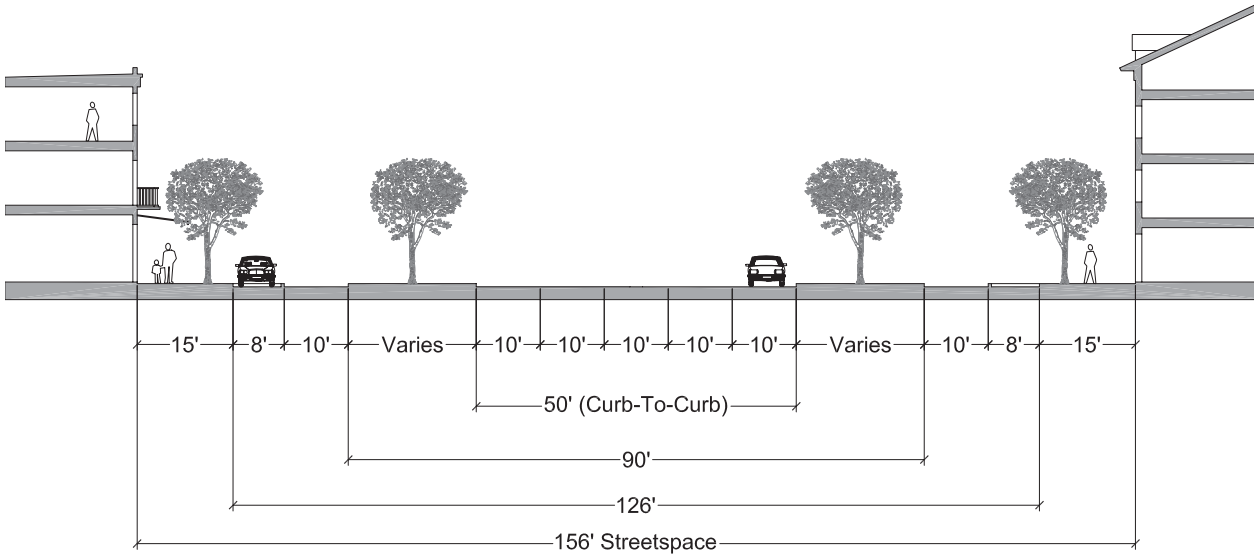


Figure 4: Boulevard (BV) 50-126 Section Drawing

The Multi-way Boulevard Design for Fairfax Boulevard

HPE recommends a multi-way boulevard design for Fairfax Boulevard. Rudimentary access lanes, or frontage roads, have been in place for years connecting many retail and commercial businesses along the Boulevard. Multi-way boulevard sections are recommended for Kamp Washington, Northfax, and Fairfax Circle. Between the Northfax and Fairfax Circle areas, the multi-way boulevard will transition into the 6-lane arterial highway that exists along the green, less developed East Connector area. At Fairfax Circle, the Boulevard will again transition into a 4-lane multi-way boulevard.

The proposed multi-way boulevard for Fairfax Boulevard is intended to encourage walkability, while providing ample movement of through vehicles. Access to adjacent buildings is also vital; it provides the traffic necessary to patronize the boulevard's shops and commercial services. The multi-way boulevard includes a 15 foot sidewalk with shade trees, an 8 foot parallel parking lane, a 10 foot one-way access lane, a 20 foot wide park-like median, two 10 foot travel lanes, a 10 foot safety strip and a repeat of these elements in mirror image (Figure 4).

In the new multi-way boulevard sections, the existing 12 foot lanes should be narrowed to 10' travel lanes to encourage slower vehicular speeds for the comfort and safety of pedestrians. Pedestrian fatalities increase geometrically with increased motor vehicle speeds, thus speed management in high pedestrian areas is essential. The 10 foot center travel lanes require the addition of a safety strip – a textured pavement area in the center of the street. The textured surface discourages continuous driving on the safety strip but allows temporary usage of the strip by oversize vehicles as needed. The safety strip transitions into left turn auxiliary lanes where needed.

Multi-way boulevard design combines the specific needs of multiple functions into a single, comprehensive, balanced thoroughfare. Pedestrian mobility is a primary function, facilitated by managed motor vehicle speeds. Commercial viability is enhanced with access via multiple travel modes, specifically walking, biking, transit and motor vehicle use. Through movement of commuter and local circulating traffic is also provided without significant loss of capacity. Capacity is provided by green time and lane arrangement at key intersections.

3. Create walkable thoroughfares

In addition to the multi-way boulevard section mentioned above, HPE identified the following street sections for all local streets adjoining Fairfax Boulevard. Following the paradigm of LU-1 / TR-2, or Land Use First/Transportation Second, the design team identified areas for redevelopment and created specific land use designs for these areas. Walkable thoroughfares were then created or adapted from existing street sections to serve these areas with appropriate vehicle speeds.

Most local streets in the walkable centers are designed with two 10 foot lanes, known as an 8/10/10/8 street (shown in blue on Figure 5). This street section, illustrated in Figures 6 and 7, includes a 15 foot sidewalk and tree planting area, an 8 foot parallel parking lane, two 10 foot travel lanes, an 8 foot parallel parking lane and a 15 foot sidewalk and tree planting area (ST 36-66).

Eaton Place is redesigned for increased walkability, but maintains its four lane configuration. This capacity is needed to balance traffic between Eaton Place and Fairfax Boulevard. Eaton Place is to have four 11 foot lanes and a 10 foot safety strip in the center (ST 40-60; see Figure 7).

A 6-lane road (RD 88-112) is proposed for the existing 6-lane portions of Fairfax Boulevard between Northfax and Fairfax Circle; areas of low-density development and green space (shown in green on Figure 5). This road is marked by a 6 foot sidewalk, 6 foot planting strip, three 12 foot eastbound lanes, a 16 foot median/safety strip and a symmetric repeat of these elements to the other side (see Figure 9).

Several street sections located at the edges of the three commercial centers remain at stage one of the multi-way boulevard evolution. The center lanes are narrowed to 10 feet and medians are widened inward, bringing the 16 foot edge medians to a full 20 foot typical width. As land development patterns change to a more walkable pattern, with buildings to the back of sidewalks, the frontage roads should change accordingly and become multi-way boulevard access lanes of 10 feet with 8 foot parking bays. This street section has either 4 or 6 lanes, 10 feet in width (ST 50-126, see Figure 8) and is proposed for the following major streets that intersect Fairfax Boulevard (shown in brown on Figure 5):

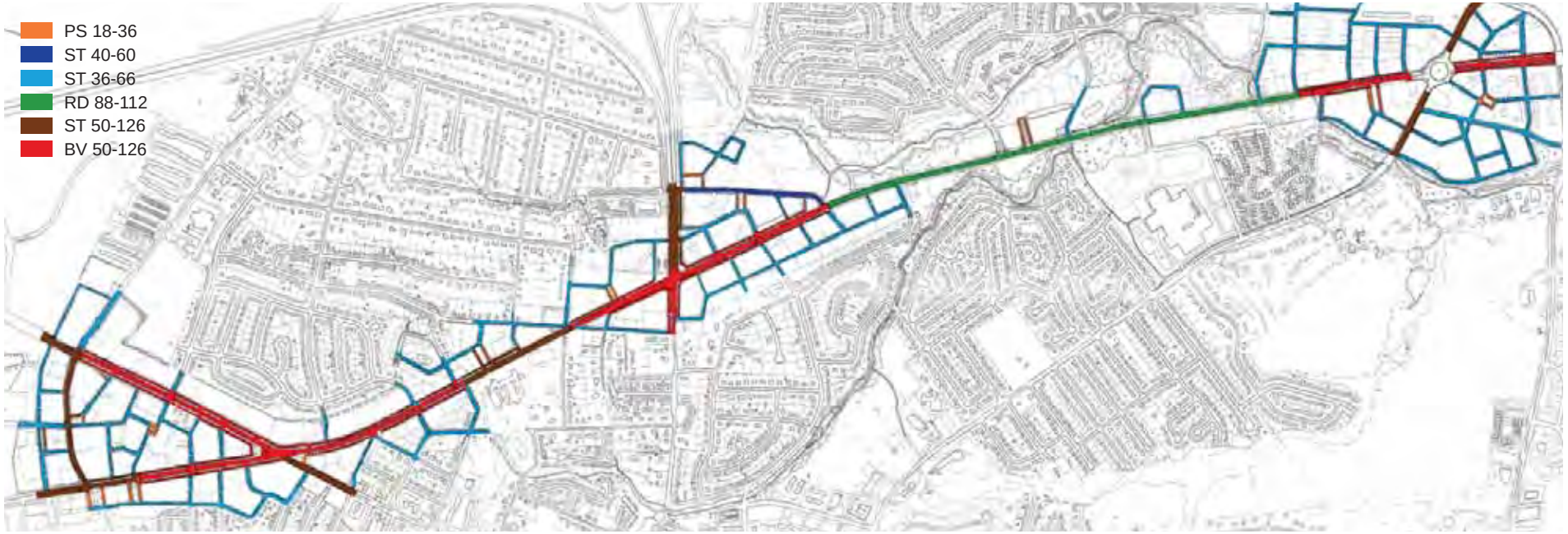


Figure 5: Street Atlas

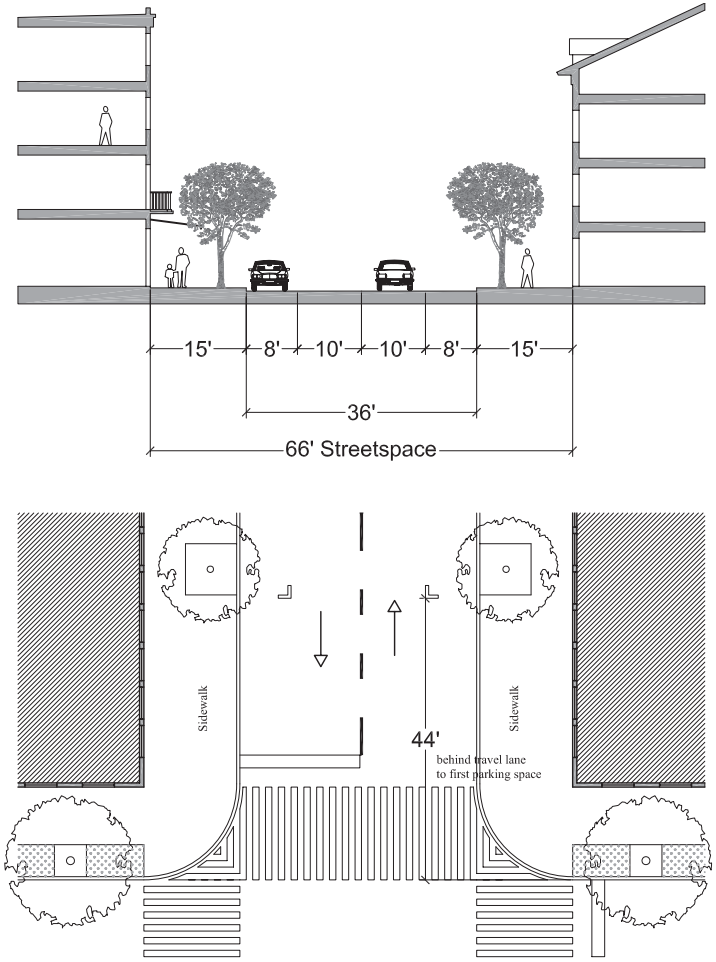


Figure 6: Street (ST) 36-66 Section Drawing

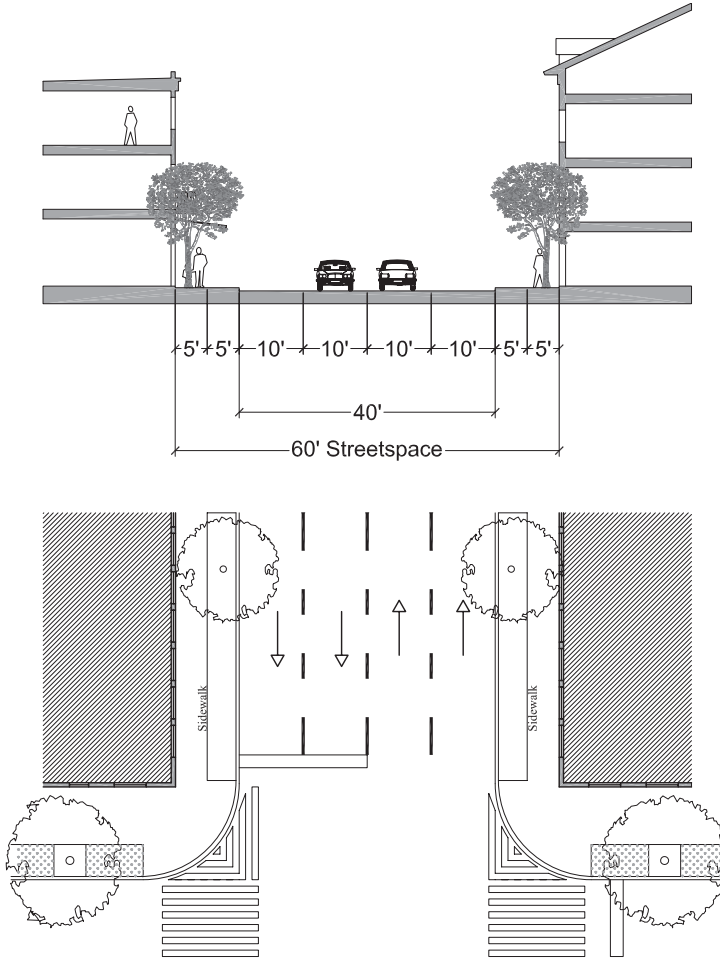


Figure 7: Street (ST) 40-60 Section Drawing

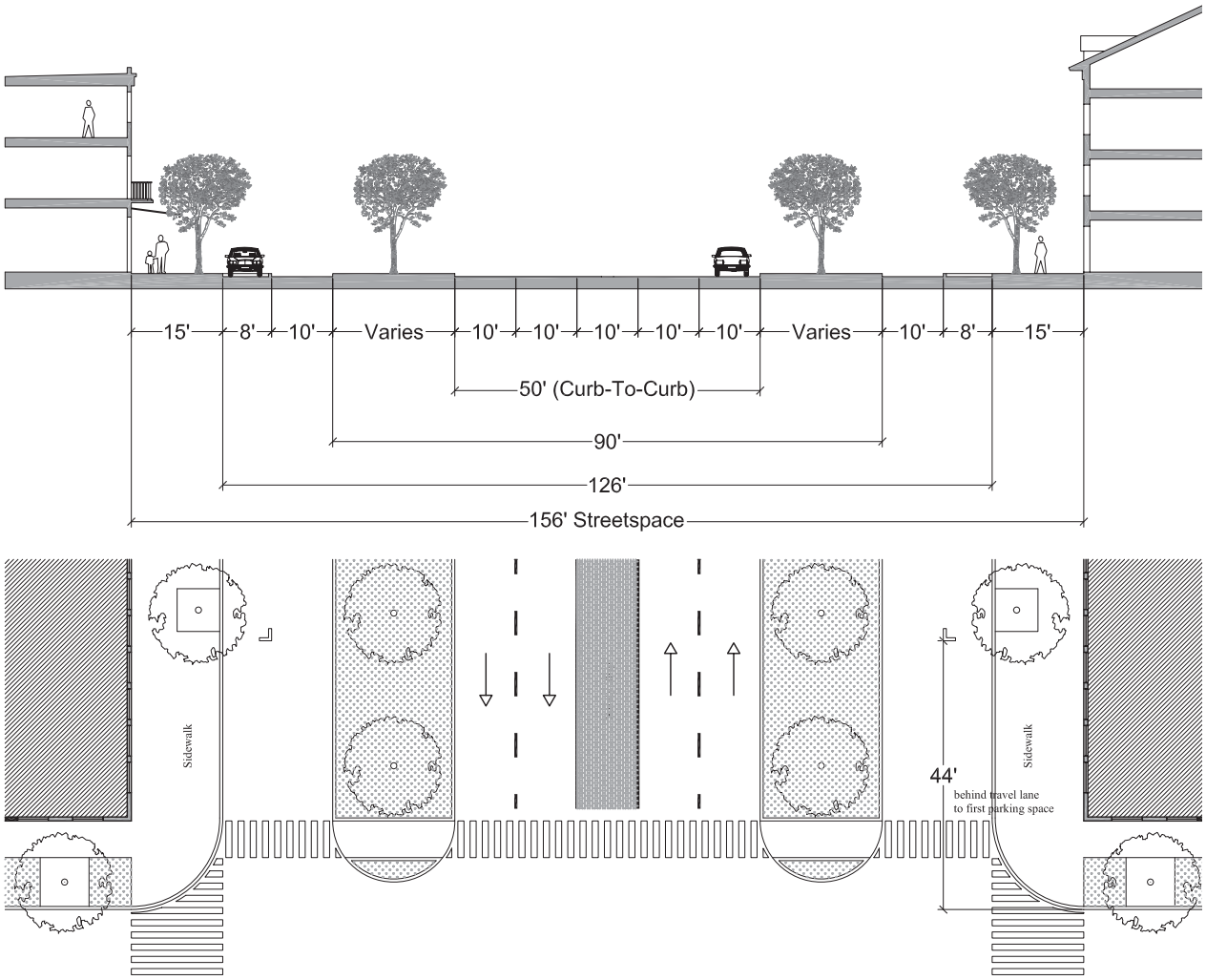


Figure 8: Street (ST) 50-126 Section Drawing

- Jermantown Road
- Main Street south
- Chain Bridge Road
- Lee Highway at Fairfax Circle
- Old Lee Highway at Fairfax Circle

This street section is also suggested for Lee Highway east of the Kamp Washington area and a portion of Fairfax Boulevard between Meredith and McLean Avenues.

Where greens are proposed in the walkable town centers, directional streets are proposed at each edge (shown in gold on Figure 5). These street sections include 15 foot sidewalks on the developed side, an 8 foot parallel parking lane, 10 foot travel lane and a curb/swale (PS 18-36; see Figure 10). This one-way street is limited to locations where it is separated from its pair by a park or large green.

Completing a Thoroughfare Network adjacent to Fairfax Boulevard

In addition to the design of the streets themselves, the street network as a whole must be constructed in a walkable fashion. To be walkable, the streets need short block faces (400'-500' maximum), narrower lane widths (10 foot maximum), and frequent intersections.

A more robust street network in the adjacent commercial areas will encourage use of parallel side streets and alleviate some traffic on Fairfax Boulevard. Several new parallel streets will increase the grid or network of thoroughfares surrounding Fairfax Boulevard to significantly improve local circulation.

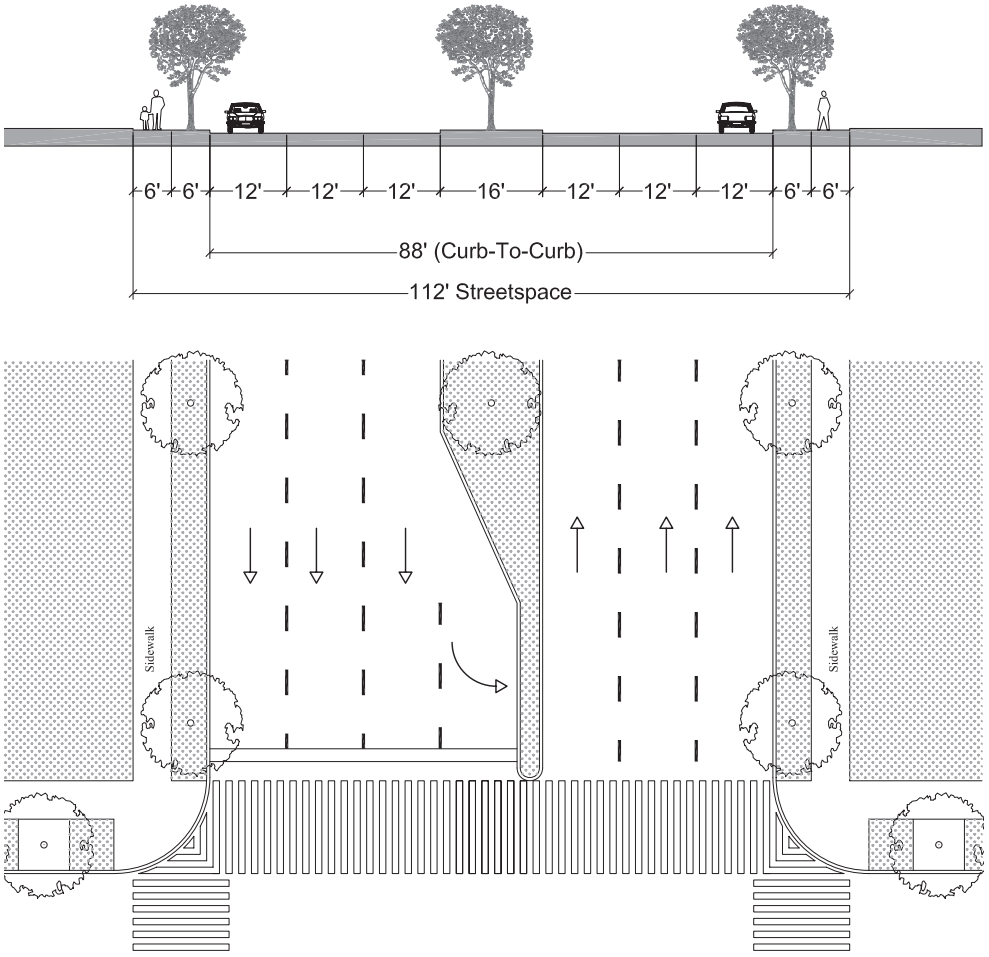


Figure 9: Road (RD) 88-112 Section Drawing

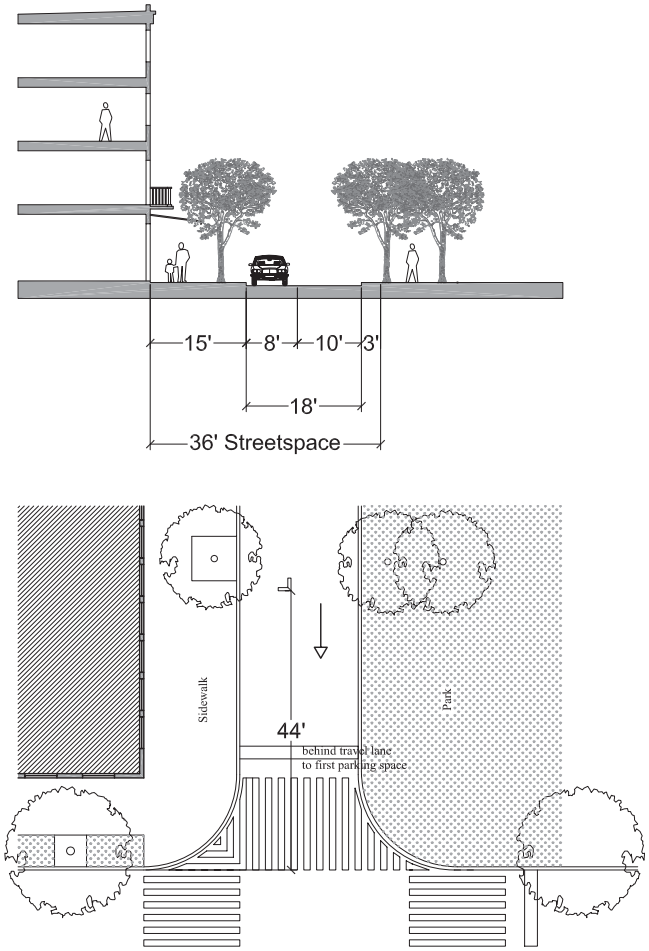


Figure 10: Park Street (PS) 18-36 Section Drawing

4. Improve the special intersections at the nodes
Although economic development and greater modal diversity are primary concerns of the transportation strategy, the continued ability of Fairfax Boulevard to carry existing and projected traffic is also a concern. Current land uses along Fairfax Boulevard do not facilitate the sharing of trips. In other words, most vehicular trips generated by a land use along Fairfax Boulevard are exclusive. Little opportunity exists for significant reductions in trip impact on the main thoroughfare (beyond frontage road use) by combining multiple stops during one trip. In multi-use, pedestrian scale developments, trips between given land uses can be accomplished via walking, biking, transit or driving without significantly impacting the major street system.

Since Fairfax Boulevard will offer a more walkable environment and mix of uses, there will be an increase in trips, but many of those trips will be shared internally among the uses, often without affecting movement on Fairfax Boulevard. Fairfax Boulevard's new design and land use structure will also accommodate increased usage of the Metrorail system for commuters from the area, as well as visitors.

To determine the relative traffic flow quality of existing traffic levels through the three main Fairfax Boulevard intersections (at Lee Highway, Chain Bridge Road and Fairfax Circle), HPE used both Sidra and Synchro (TrafficWare, Inc) traffic simulation programs. Sidra analyzes roundabout flows and Synchro estimates flow through signalized intersections.

Roundabouts were considered for these three intersections because they are pedestrian friendly due to their lower motor vehicle speed operations. Two and three lane roundabouts operate at less than 25 mph when well designed. Crosswalks are placed behind the first queued vehicle, thus avoiding the pedestrian being out of view when drivers look left as they enter the roundabout. Exiting vehicles, still at lower speeds, can see pedestrians and, with appropriate enforcement, will stop to let them cross the exiting lanes also.

For the Fairfax Boulevard roundabout analysis, the primary effectiveness measure for traffic flow is intersection level of service (LOS). These are letter-grade measurements of how well the intersections function.

Kamp Washington
The intersection analysis for Fairfax Boulevard and Lee Highway (the Kamp Washington area) is summarized in Table 6. Intersection delay is measured in average seconds of delay per vehicle and queue length is in feet of average queue length per vehicle.

Alternative 1 shows that current conditions, with a widening to six lanes on Fairfax Boulevard, would operate at a LOS "F" overall, with LOS "F" for the westbound flow. A three lane roundabout was evaluated for this location, in Alternative 2, which improved LOS to "B" and significantly reduced delay and queue length.

Northfax
The intersection analysis for Fairfax Boulevard and Chain Bridge Road is summarized in Table 7. Intersection delay is measured in average seconds of delay per vehicle and queue length is in feet of average queue length per vehicle.

Alternative 1 shows that current conditions, with a widening to 6 lanes on Fairfax Boulevard, would operate at LOS F overall, with LOS C for the westbound flow. The southbound queue from I-66 is quite long as with current conditions. Successively larger roundabouts were evaluated in Alternatives 2, 3 and 4. Alternative 4, a 3-lane roundabout, finally improved LOS to B and significantly reduced delay and queue length.

Fairfax Circle
The intersection analysis for Fairfax Boulevard and Old Lee Highway (at Fairfax Circle) is summarized in Table 8. Intersection delay is measured in average seconds of delay per vehicle and queue length is in feet of average queue length per vehicle.

Alternative 1 shows that current roundabout conditions, with a widening to six lanes on Fairfax Boulevard, would operate at a LOS "B" overall, with LOS "B" for the westbound flow. A three lane roundabout, without center through lanes, was evaluated for this location, in Alternative 2, which improved LOS to "A" and slightly reduced delay and queue length.

For each intersection, a full Synchro analysis report can be found in Appendix C for the existing condition analysis. A full Sidra report can also be found in Appendix C for the roundabout analyses.

Table 6: INTERSECTION ANALYSIS FOR FAIRFAX BOULEVARD AND LEE HIGHWAY (KAMP WASHINGTON)							
	Intersection LOS	Westbound LOS	Southbound LOS	Westbound Delay	Southbound Delay	Westbound Queue	Southbound Queue
1. Existing + 6L Blvd.	F	F	E	204	72	1153	741
2. 3L Roundabout w/ RT Lanes E and W w/ Dual LT Lanes on South leg	B	B	B	15	15	208	203

Table 7: INTERSECTION ANALYSIS FOR FAIRFAX BOULEVARD AND CHAIN BRIDGE ROAD (NORTHFAX)							
	Intersection LOS	Westbound LOS	Southbound LOS	Westbound Delay	Southbound Delay	Westbound Queue	Southbound Queue
1. Existing + 6L Blvd.	F	C	F	34	270	475	1404
2. 2L Roundabout	F	F	F	265	110	3880	1655
3. 2L Roundabout w/2 bypass lanes	F	F	F	86	295	1666	3273
4. 3L Roundabout w/4 bypass lanes	B	B	B	17	17	356	272

Table 8: INTERSECTION ANALYSIS FOR FAIRFAX BOULEVARD AND OLD LEE HIGHWAY (FAIRFAX CIRCLE)							
	Intersection LOS	Westbound LOS	Southbound LOS	Westbound Delay	Southbound Delay	Westbound Queue	Southbound Queue
1. Existing + 6L Blvd.	B	B	D	34	15	441*	363
2. 3L Roundabout	A	B	A	14	8	376	146

*Volume for 95th percentile queue is meters by upstream signal.

Intersection Recommendations

The Sidra and Synchro analyses illustrate that these intersections are operating at low levels of service, but can improve when redesigned, either as a new roundabout or as a reconfigured roundabout.

Though the analyses show that Kamp Washington and Northfax could improve the level of service for vehicular traffic through the development of a roundabout, HPE does not recommend a roundabout for these two intersections at this time because of urban design and right of way considerations. A proposed roundabout would prove more detrimental to the desired land use for the intersection than beneficial for moving vehicular traffic. Therefore, there are no recommended changes to the Kamp Washington and Northfax area intersections other than the design of the multi-way boulevard that narrows lane widths to 10 feet.

HPE does recommend that the Fairfax Circle roundabout be redesigned as a modern 3-lane roundabout without the direct street connection through the center. Evaluation of expected traffic levels and known importance of access to Metro north of the circle resulted in a renewed design of Fairfax Circle as a modern roundabout with 2 and 3 circulating lanes. Sidra analysis yields an acceptable LOS for this design shown in Table 8.

5. Rethink the way parking is handled

Parking has become the single greatest use of space in the urban landscape. The redesign of Fairfax Boulevard will affect parking in the following ways:

- Mitigate the demand for parking
- Reshape the way parking is used in the urban fabric
- Alter the way parking is provided and shared

Mitigate the Demand for Parking

The Fairfax Boulevard Master Plan assumes that the corridor will be highly successful and generate substantial investment, reinvestment, and demand for parking. The existing conventional pattern of each land use on its own parcel, surrounded by its own parking lot, requires enormous dedications of space to parking and hinders the effectiveness of public transportation and walkability. Transit patrons must cross large surface parking lots to reach a location, which reduces the attractiveness of transit and walkability. In this type of environment, driving from one location to another is the most logical choice for most shoppers. A "park once" approach, which allows access to multiple locations from a single parking space, is not viable under these conditions. Consequently, every customer requires a parking space at every single land use along the corridor.

Under the Master Plan design, which is based on a more urban and traditional land use pattern of buildings at the back of sidewalks and on-street parking, the "park once" concept is a reality. A customer can park once and access several different locations. In addition, transit becomes a more attractive option, and transit riders do not need parking spaces at all. Consequently, the redesign of Fairfax Boulevard will help to mitigate parking demand compared to the existing conditions.

Reshape the Way Parking Is Used in the Urban Fabric

Under the existing conditions, as in most of post-WWII America, parking is massed in large parking lots where vehicles are stored by their owners in between trips. While some parking lots are landscaped and provided with shade trees, parking lots in general are single-purpose facilities that only serve automobile drivers.

The redesigned Fairfax Boulevard, as shown in the Master Plan, recognizes the need for parking but also provides parking with an additional purpose – the shaping of the urban fabric. When parking is organized along a street as parallel or angle parking stalls, the automobiles actually provide structure and form to the street. Combined with shade trees, wide sidewalks, and attractive buildings built to the back of the sidewalk, on-street parking sends a message that an area is alive and well. Pedestrians are essentially told the place is safe and desirable, through the presence of the cars parked along the street. Rather than dividing urban space into seas of parking with islands of buildings, on-street parking unites urban space by bridging the street to the land uses. For this reason, on-street parking is a key component of walkability.

On-street parking will provide only a portion of the required parking spaces in a redesigned Fairfax Boulevard, but it provides much more than just vehicle storage. Additional vehicle storage must also be provided, as described below.

Alter the way parking is provided and shared between land uses

As described above, on-street parking will meet a portion of the demand for parking along Fairfax Boulevard, but additional parking will be needed. How much additional parking will be mitigated by the ability to park once and use transit, as described above, but will also be mitigated by the ability to share parking between land uses. This concept is called "shared parking" and will be described further below. In addition, the City of Fairfax can implement paid parking standards to manage parking demand, as is also described below.

Shared Parking

Conventional/existing development patterns along Fairfax Boulevard today require separate parking lots for each land use. Even if land owner were willing to share parking lots, the distance between land uses if often too great to encourage walkability and customers would end up driving anyway. So, conventional parking standards require a certain number of parking spaces for each land use – x number of spaces per square foot, per number of tables, or per number of washing machines, for instance. These standards assume that each land use is stand-alone – i.e., that a customer doing laundry will require a parking space at the laun-

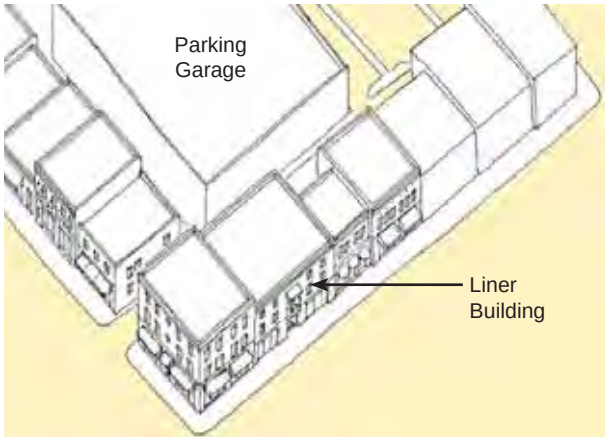


Figure 11: A liner building should be used to shield the blank façade of a large footprint building or parking garage from view of pedestrians. It must be deep enough to have habitable space, and have doors and windows that face the sidewalk.

dromat and will require another parking space at a restaurant if he decides to get a sandwich while his whites are in the dryer. So, the laundromat has a set of parking requirements, and the restaurant has an additional set. These assumptions are generally valid in a conventional, non-walkable location.

Shared parking, however, recognizes that in urban locations, such as the redesigned Fairfax Boulevard, with high levels of walkability and easy, attractive pedestrian access between land uses, large amounts of separate parking are not required for each land use. Instead, land uses may share parking. For example, an office building that is open during the day requires parking for its employees during business hours, but not during the evening when the office is closed. A dinner restaurant/club requires parking at night, but not during the day when the restaurant/club is closed. Under conventional parking demand, each land use would require its own parking supply, even if they were located adjacent to one another. Shared parking recognizes that the same parking lot can serve both uses with minimal amounts of overlap (there will probably be some demand for office parking at night and restaurant parking during the day, if only for maintenance staff and management.)

The Urban Land Institute publishes a shared parking guide that can be used to estimate the level of shared parking availability for various mixes of land uses. In addition, New Urbanists utilize the SmartCode, which incorporates shared parking principles, to determine parking demand. Either approach will yield a better estimate of parking demand along Fairfax Boulevard than conventional parking standards, such as those promulgated by ITE (the Institute of Transportation Engineers, which produces excellent reference materials for conventional development.) As the corridor develops, the City should utilize these shared parking methodologies to estimate parking requirements. Using conventional standards would result in overestimation of parking requirements.

Paid Parking

Shared parking arrangements will help match parking supply to the demand for parking generated in an urban context, but on-street parking will still need to be supplemented by additional off-street parking. In a traditional urban context, off-street parking should be confined to the interior of a block and shielded from the street by liner buildings. Liner buildings are thin buildings that provide a store-front and street presence and are usually employed to block a view and provide an urban context along the street. Interior parking areas can be surface lots, or if demand requires, structured parking decks. In either case, paid parking may be used to help finance parking spaces and parking structures.

Parking management practices generally consider parking to be at capacity when 80% of available parking spaces are full. At this point (actually prior to this point), users of the parking spaces will complain about a lack of parking. If a parking survey indicates that parking is at 80% of capacity or higher, the recommended option is to implement paid parking. Under paid parking, users of the parking spaces pay a fee to park. The fee can be collected in a variety of ways, including meters, debit and credit cards, pass programs, smart cards, or parking attendants. The amount of the fee is adjusted to control the demand for parking and keep demand at about 80% of capacity.

As Fairfax Boulevard develops, the City will need to track the intensity of development and use shared-parking arrangements to the greatest extent possible. Ensuring good transit service and requiring on-street parking, consistent with the Master Plan, will keep parking demand as low as possible. The ULI shared-parking methodology or the New Urbanist/SmartCode parking standards can be used to estimate parking demand as new development comes online. Utilizing interior surface lots to supplement on-street parking, paid parking should be implemented with demand exceeds 80% of sup-

Figure 12: Buildings located across parking lots are suboptimal for effective transit operations.

Figure 13: Buildings pulled up to the sidewalk promote walkability and improved transit service

ply (or when this is projected to occur, for instance, if a block redevelops and several large land uses move it, such as a large corporation or retailer). At this point, structured parking becomes viable and may be provided for, either through negotiation with the developer, bonds, or other City financing mechanism.

The critical parking concepts to remember, regarding the Fairfax Boulevard corridor, are to let the urban form, including a mix of uses, on-street parking, and buildings built up to the street, help mitigate the demand for parking. Then use shared parking to accommodate the demand. And when available shared parking and on-street parking reach 80% of capacity (in either actuality or projected development), implement paid parking strategies to keep demand in the 80% range. These strategies will ensure that adequate parking always exists in the corridor, but that parking lots will not define the corridor or be the major land use in the area.

6. Enhance and increase transit opportunities

The Fairfax Boulevard corridor, as part of the general Washington, D.C. metro area, is comparatively well-served by public transportation. Rail transit is available at the Vienna/GMU Metrorail station, connected by local and regional bus service (CUE and Metrobus, respectively) throughout the study area.

Local Bus Service (CUE)

The City of Fairfax local bus service (called CUE) provides four local circulator routes anchored on the Vienna Metro Station and George Mason University. Service is provided every half-hour during the week and hourly on weekends. Four CUE routes run in two directions – two routes run clockwise and two run counterclockwise. University students and faculty/staff ride fare-free; cash fare is $.75 or $.50 for seniors and students. Real-time route and schedule information for CUE is provided on the Internet at www.nextbus.com.

Regional Bus Service (Metrobus)

Metrobus provides extensive regional bus service in the Washington, D.C. area. Routes 1C and 1Z directly serve the Fairfax Boulevard corridor and connect into the rest of the regional transit system and the Metro rail system (Figure 14).

Regional Rail Service (Metrorail)

Rail service is provided by WMATA (Washington Metro Area Transit Authority) through the Metrorail system on the Orange Line at the Vienna/GMU station, located at the northeastern end of the Fairfax Boulevard corridor (Figure 15 is a portion of the Metrorail Map). Access to the Metro is provided by both CUE and Metrobus. In addition to bus service, this Metro station offers a carsharing program, 56 bike racks and 54 bike lockers. Carsharing is an innovative membership program that allows members to rent cars for short errands or trips originating at the Metro station but not easily accomplished by transit.

CASE STUDY – ALEXANDRIA, VA

The City of Alexandria, VA, responded to complaints about parking availability in the Parker Gray neighborhood (adjacent to Old Town and the Braddock Road Metro Station) by conducting a parking survey. The survey indicated that on most streets, peak parking demand was less than 80% of capacity. Therefore, paid parking was not indicated for those locations. Some blocks, however, closer to high-intensity areas such as US 1 and the Metro station, did have over-capacity situations. On those blocks, increased use of shared parking and increased parking fees were recommended to match parking demand with parking supply. Using the 80% rule, the City was able to determine that parking complaints, which are common in urban areas, did not merit a major change in parking policy for most of the neighborhood and instead focus efforts on areas that did require help. As a rule, if no one is complaining about parking, in an urban setting, then there is likely too much parking available. If there are complaints, the 80% rule can be used to estimate the best response, whether the response is to provide additional free parking or to increase parking fees.

Figure 14: Metrobus Routes

Effects of Proposed Boulevard on Transit Service
The traditional town design of Fairfax Boulevard, with higher intensity development located back-of-curb along the street, is ideal for transit service. The multi-way boulevard design of Fairfax Boulevard will allow transit vehicles to provide front-door service more effectively than the existing, conventional strip-center development pattern, in which the building is located hundreds of feet from the street across a large parking lot. The side medians of the multi-way boulevard provide perfect locations for transit stops. Passengers alighting from the bus have only to cross the park-like median and the slow-moving side access street to reach the front door of a building. Experience with similar designs in other cities (Paris, Barcelona, and New York, for instance) indicates that this design works quite well for transit.

In addition to provided improved transit operations, the multi-way boulevard design offers exciting possibilities for future transit improvements. One original purpose of the planted median was the provision of street-car access. Should a Bus Rapid Transit or Light Rail system develop along this corridor, the side medians will provide additional right-of-way (ROW) that could be used to support a rail line.

Figure 15: Section of Metrorail System Map

Implementation of the Transportation Strategy

HPE suggests a two-phased approach to the redesign of Fairfax Boulevard into a multi-way boulevard.

The first phase will transition the existing boulevard into narrower travel lanes, while still providing the same four-lane configuration. During this phase, it is suggested that the 16' medians (approximate) along each side of the boulevard be expanded to 20', decreasing the travel lane width from 12' to 10'. As stated earlier, this will have the advantageous effect of slowing the free flow vehicular speeds for increased pedestrian comfort, while still accommodating similar levels of traffic flow. A 10 foot safety strip of rough textured pavement is designed for the pavement between opposing lanes to facilitate movement of larger than average motor vehicles. The safety strip transitions into a left turn auxiliary lane as needed. Frontage roads, where they currently exist along Fairfax Boulevard, will be enhanced and maintained.

The second phase will achieve the multi-way boulevard and provide detail to the frontage elements. During this phase, the frontage roads will be transformed into side access lanes. Utilizing existing land area, the roughly 18 foot frontage roads become an 8 foot parallel parking lane and a one-way 10 foot access lane with an 18' wide sidewalk with tree plantings. This will improve the area fronting the Boulevard's businesses and retailers by providing attractive parallel parking and sidewalks for pedestrian mobility, without detracting from their current frontage space. Streetscaping will also be finalized during this phase.

To the extent possible, other adjacent street sections should be constructed during both these phases, with the ultimate goal of completing the entire network when the Boulevard is completed.

Right of Way options for redesign of Fairfax Boulevard are varied and will require substantial focus and careful negotiation. They range from City/State purchase of all needed ROW up to the building faces of the new town centers; to an approach relying on easements to achieve the side access and parallel parking elements of the multi-way boulevard design.

Obviously, the latter approach is recommended. Considerable benefits will accrue to the adjacent property owners when the more favorable urban streetscape pattern emerges with pedestrians at the front of retail businesses. Parallel parking also helps retail and other commercial establishments. With these benefits, the adjacent property owners should be asked to dedicate access easements for the land at the boulevard edges, beyond that already in government ownership. This land is limited now due to setbacks for landscaping and parking. The multi-way boulevard design would simply reshape this operation pattern to a more urban and more sustainable form. The benefit should equal the "cost" of the dedicated transportation easement. Without this arrangement, the boulevard would be much more expensive and its implementation may be significantly delayed.

Scheduling the redevelopment of land in each town center is the primary task at hand. Phase 1 boulevard resizing should occur first. Subsequent to this, the boulevard sections should be negotiated, designed and constructed. The creativity and care needed for these groundbreaking steps will be a significant measure of the success of Fairfax Boulevard's renaissance.

Fairfax Boulevard Illustrative Plan

economic analysis 6

Fairfax Boulevard is an example of the hopeful development trends begun in the dawn of the auto age. Built in the 1930's as a bypass road, over time the route filled with development oriented to passing traffic. The land use patterns were developed in the mid-century fashion of highway strip-commercial shopping center, serving new, adjacent suburban developments. As Fairfax Boulevard grew it became more central to the community due to shifting development patterns. By the 1970's the boulevard was mostly built-out and has seen only incremental change since then. As development increases outside of the City limits, however, Fairfax Boulevard has increasingly become congested with pass through traffic. Countywide, new retail and service offerings have taken a toll on businesses along the corridor. Fairfax Boulevard, an active economic resource for the City of Fairfax, has now considered to be a congested arterial with a business environment in need of rejuvenation.

MARKET COMPETITION

Fairfax County is growing quickly. New development is locating in areas that either provide a cluster of similar uses or easy access to customers and employees. Because of this external competition, businesses along Fairfax Boulevard have been losing market share. Without coordinated revitalization efforts, the local business community fears that this decline will continue.

The causes for this decline are directly related to the perceived economic utility of the corridor to residents and pass through traffic. Economic utility is simply how useful people find the Boulevard commercial district compared to other competitive developments. The concept of utility balances access time against choices available upon arrival. Once people have committed to getting into traffic, the larger the perceived number of goods and services contained within one trip the higher the utility. This theory of utility is the basis for the creation of large shopping centers. The difficulty for the centers along Fairfax Boulevard is that they currently do not have the space to accommodate a wide range of choice because of parcel size or low density of land use.

Another factor is the qualitative experience. The newer offerings in the retail marketplace offer what is termed "sense of place." Retail corporations have discovered that while consumers still spend time at malls[1], the mall format itself has been changing from traditional enclosed malls — the focus is now on providing amenity rich developments. Some are in the form of what are called lifestyle centers, such as Fairfax Corner, or in successful "main street" style developments, such as Bethesda Row in Bethesda, Maryland. Amenity rich development includes walkable space, entertainment and restaurants to enliven the area, and residential space to support sales and encourage vitality by a captured base of on-site pedestrians. Typically there is a spine that replicates a main street where customers can walk from offering to offering in an outdoor environment. This type of development is arranged to provide the maximum number of people on sidewalks, creating an experience energized by human interaction.

Given the market conditions, what can Fairfax Boulevard do to compete? First, according to the theory of utility (balancing travel time against choice) the closer people are to a source that satisfies their needs, the more likely they are to shop there. Second, wide choice relies upon the number of households that can be attracted so to provide sufficient spending to support the businesses.

[1] ICSC White Paper, The Facts on Regional Malls, 2006.

Existing Conditions on the Boulevard

Third, there is the creation of the environment for human interaction — a pedestrian-friendly place where people feel comfortable and safe at all hours where they are likely to meet friends and the human scale allows them to become known and to know those with whom they are interacting.

The Master Plan addresses these economic issues by rethinking the structure of the Boulevard itself (see Chapter 5, Transportation), by creating walkable places with a mix of uses that can have relatively high utility and are rich in amenities, and by adding housing to the development mix to assure that there will be high customer capture and a resident population to enliven streets and gathering places. These elements are mutually self-supporting and, other than changing the boulevard itself, cannot be accomplished separately without adding traffic and congestion to an already difficult auto oriented environment.

UNDERSTANDING THE CURRENT SITUATION

For any business area to succeed, it has to address the stated needs of its owners, businesses, and customers—the people who are conducting business in the marketplace. To understand the needs and desires of local market participants, Urban Advisors conducted preliminary interviews with stakeholders. During the March 2007 charrette Urban Advisors met and interviewed developers, landowners, business owners, neighborhood residents, the Mayor, City Council members, Planning Commissioners, Fairfax Boulevard Partnership representatives, Economic Development Authority leaders, and City staff to better understand local economic goals with regard to the redevelopment of the Boulevard. From this input it was learned that there is a desire for change— business owners, landowners, City leaders, and community members outlined a very different environment than the one existing on Fairfax Boulevard today. Business owners want more foot traffic and higher revenues. Landowners wish for a better use of the resources represented by their investment. The community at large wants a more attractive and walkable corridor, better retail and services in mixed-use development, and provision for open space along the corridor that reflects the best qualities of Fairfax. All stakeholders stressed the importance of the Boulevard to City tax revenues, and the consequent need to preserve and improve business viability to maintain the excellent services provided by the City.

Part of the necessity for change is the age and quality of the building stock available in the city. What has been built is what is called economically obsolete — that is, it no longer adequately addresses the market for which it was created.

As Table 1 illustrates, the median age of structures is from 43 to 25 years old. Many of these structures were built to respond to markets that have changed radically over the lifespan of these buildings. The difficulty for the city is that other areas outside the city have been responding to markets with newer offerings in different site configurations that strive to satisfy current market demands. This does not necessarily mean a need for new buildings, but it does mean that old-fashioned strip developments and suburban office styles (as opposed to significant historic buildings) are likely to suffer in competition. This also does not mean that the City cannot respond to these market demands; given the economic development capacity of the city, it highlights the need for pro-active city leadership in redevelopment to capture new markets.

In regards to City leadership, many stakeholders expressed the concern that the City regulatory system is a barrier to development. There is the perception that every development application is a political process that can founder on the complaints of a very few dissenting residents. Approval is often uncertain and adds great risk for those who wish to improve their property. The Fairfax Boulevard Master Plan process was designed to address these issues directly by designing in public. The plan was produced with public input so that those following the plan will be doing what the City Council and the residents of Fairfax desire for the future of the Boulevard. In addition, a new form-based code for the Boulevard will ensure that what is developed is in concert with the aspirations of the community.

Table 1: MEDIAN YEAR BUILT BY BUILDING USE

City of Fairfax	Number of Buildings With Known Age	Median Year Built
Retail	49	1964
Restaurant	27	1973
Office	36	1982

Note: Use codes correspond to City of Fairfax Real Estate Records.
Table includes only those properties for which the year built is on record.
Restaurant includes use codes for restaurant and fast food restaurant.
Retail includes use codes for retail and shopping center.
Office includes use codes for office and commercial condominium.
Source: City of Fairfax

ORGANIZATIONAL CAPACITY FOR CHANGE

Many cities that wish to revitalize areas perceived as lagging have few resources to pursue economic development. This is not true in Fairfax. One of the great advantages of the City of Fairfax is its organizational capacity for supporting change. The city has the following structure addressed to economic development:

City Council

The elected governing body of the City, the City Council is responsible for approving all planning, development, and policy matters. City Council is composed of six members elected at-large to concurrent two-year terms. The Mayor, also elected to a two-year term, presides over City Council meetings, and is responsible for casting a tie-breaking vote if necessary. The City Council is responsible for all legislative actions within the City, including land use actions, property acquisition, special use permits, procurement, and changes to the City Code and Comprehensive Plan.

Planning Commission

The seven-member appointed Planning Commission advises the City Council on planning and development issues. Members are appointed by the City Council for four-year terms and serve in an advisory capacity to the City Council and ensures that development within the City occurs according to adopted plans and guidelines. The Commission reviews and provides recommendations on matters

requiring land use actions, such as applications for zoning changes, proposed subdivisions, zoning text amendments, and changes to the City's Comprehensive Plan.

Economic Development Authority
The Economic Development Authority (EDA) is the principal body responsible for promoting economic development within the City and for marketing the City's commercial and industrial areas. Appointed for staggered four-year terms, the EDA's seven members are charged with expanding the City's tax base by instituting economic development initiatives, attracting quality development projects and promoting the City's development opportunities. The Authority may also issue industrial revenue bonds for development projects.

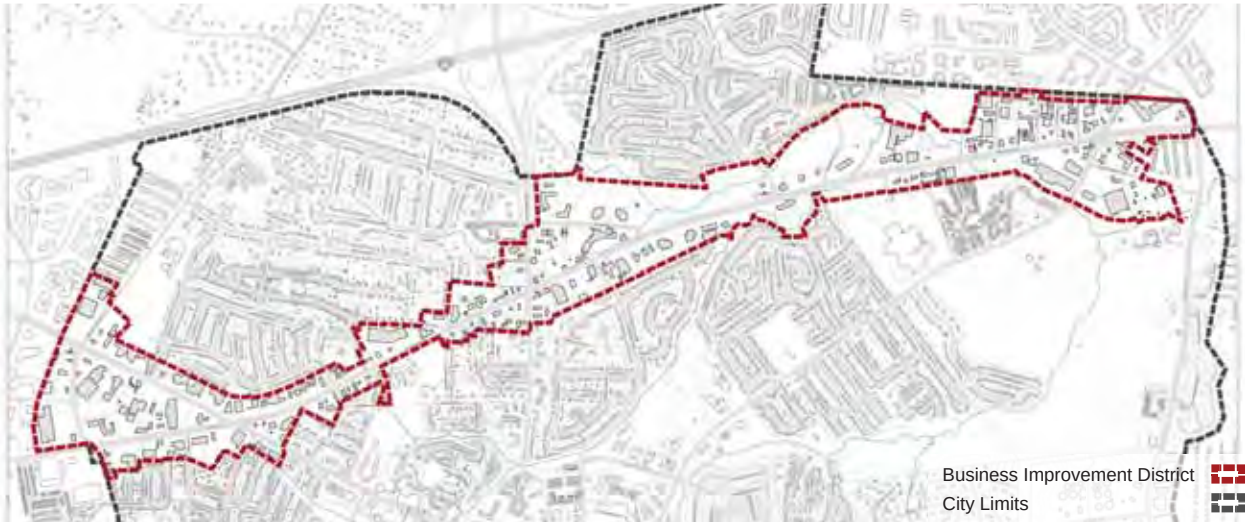
Fairfax Boulevard Partnership
For many years, the City has sought to encourage the revitalization of what is now the Fairfax Boulevard Corridor. Revitalization, it has been hoped, will enable the City to better maintain economic competitiveness in the region's retail and office marketplaces. This encouragement received a major boost in 2005 when the Fairfax City Council approved the creation of a Business Improvement District (BID) for the area.

Business Improvement Districts have been established in communities nationwide to provide specialized services for a specific area within a given jurisdiction. These services can include infrastructure improvements, marketing and promotional programs, and other activities that are above and beyond what a local government typically can provide. To pay for these services, an increment is added to real estate tax to bills for properties within a defined area. In Virginia, the tax funds collected by a BID must be spent on improvements or services entirety within the BID's service area (Code of Virginia, §15.2-2403).
For Fairfax Boulevard, a BID was envisioned as a method to create a dedicated organization – managed by local property owners and businesspeople – that may focus exclusively on ways to improve the appearance and performance of the City's business boulevard.

Named the Fairfax Boulevard Partnership, the BID is a public/private body created to promote revitalization and improve the aesthetics and marketability of the entire Boulevard. The Partnership represents a major step forward in the revitalization process, not just because of its formation, but also because of its funding. Receiving revenue of six cents per $100 of assessed value among properties within its boundaries, the Partnership is assured of an income stream that can help to accomplish many of the organization's goals.

The Partnership is managed by a Board of Directors consisting of nineteen members – nine elected property owners, nine elected business owners, and a Chairman appointed by the Fairfax City Council. Over time, the Partnership will concentrate efforts on improving the business atmosphere by creating and implementing guiding principles such as this Master Plan, marketing the Boulevard implementing streetscape improvements, and other endeavors that would benefit Fairfax Boulevard.

Based upon the ability to streamline approvals and offer funding as necessary for economic development activities in the City and in the Fairfax Boulevard Partnership, the capacity exists for producing meaningful change on the corridor. In the section on implementation, a list of actions for public private initiatives is offered for consideration. Unlike many cities, the structure is already in place to pursue these efforts.



Fairfax Boulevard Business Improvement District

EMERGING NATIONAL RETAIL AND REDEVELOPMENT TRENDS

Redevelopment of ailing commercial districts and neighborhoods has been taking place across the nation. Redevelopment has proceeded through five strategies:

1. the creation or enhancement of arts districts;
2. the creation of housing in or near commercial areas;
3. destination retail main street areas with entertainment;
4. new office and retail/mixed-use districts; and
5. new open space amenities.

In common with all of the strategies is the concept of "place making" or creating a critical mass of change that can alter local perceptions of the area to be redeveloped. This concept is applicable to the redevelopment efforts in Fairfax, as are the lessons from each strategy.

1. Arts and Redevelopment

The Fairfax Boulevard corridor is well known but lacks cultural attractions. This is important because the arts are now perceived to be a significant means for encouraging the public to visit and use businesses adjoining arts facilities. The reason for looking at the arts as a generator of economic potential is that arts districts or places with art draw people on a regular basis and provide foot traffic for local restaurants, cafes, and retail businesses. In Denver, according to the Urban Land Institute, the city's cultural/arts district drew 7.9 million visitors in 1997, more visitors than attended Broncos, Nuggets, Rockies, and Avalanche games combined. Art is seen as an amenity that enhances quality of life and yields a perception of quality to an area. The arts are also seen as an amenity that draws new residential and office development. For redevelopment along the Boulevard it is suggested that there be a public art policy to encourage installation facilities as the corridor changes.

2. Urban Housing

Providing attractive urban housing in mixed-use developments is another strategy occurring nationally that is applicable to Fairfax. The addition of medium to high-density housing is an effective strategy for providing a base of consumer spending within walking distance of restaurants, retail, and services. It is also used in combination with office and employment centers to provide units near work for residents, lowering commutes and producing efficient shared parking arrangements.

According to the American Housing Survey by the Bureau of the Census, urban housing is being purchased by upper-income households, usually with two persons per household or fewer. These households are typically between 25 and 35 or over 45 years of age, and include a high percentage of households (as high as 50 percent) of females living alone. As a large number of households is in the age range over 45, they have built equity that allows the purchase of high quality units. This type of development is dependent upon high amenity value: people choose to be in the proximity of arts facilities, urban-style retail and services, nearby work locations, active entertainment areas that include restaurants, a walkable environment that has high levels of evening use, and access to transit.

People are willing to pay for the freedom and excitement of urban living. Fairfax Boulevard, in its current configuration, does not have the necessary characteristics to sustain this sort of housing. The Master Plan is aimed at providing the amenities for which people trade larger, suburban style development. Development of this sort requires a combination of housing with an amenity-rich environment that has the critical mass to create its own sense of place.

Arts & Redevelopment: The historical Uptown Theater in Cleveland Park, Washington, DC is a regional draw for movie lovers.

Urban Housing: The multi-family housing in Clarendon are within walking distance of restaurants and retail.

Mixed-use District: Buildings in Old Town Alexandria offer the opportunity to combine uses within single structures.

3. Creating Retail Destinations

The Master Plan calls for creating or enhancing the retail destinations at the three centers. Destination retail/entertainment developments create a pedestrian environment reached by automobile from the region and accessible to pedestrians from the local market. They are a variation of a typical mall, but include entertainment uses to create an evening hours draw for customers. These centers range in size from 70.000 square feet to over 600,000 square feet[2]. At the lower end of the scale, they include community amenities such as public plazas that are used for public functions including parades, high school graduations and even weddings. Larger developments typically include multiplex theaters along with nightclubs and restaurants.

These destinations are dependent upon strong retail spending demographics and appeal to the need for public facilities and gathering places. This trend has been taken up by the major retailing investment trusts because of its ability to draw from a wide radius. Federal Realty is actively pursuing the creation of destination "Main Street" style development because of the perceived public interest in authentic[3], public retail districts. These retail districts may be anchored by smaller versions of national chain stores but also contain local unique businesses. The inclusion of long-standing local businesses adds a quality to the retail mix that cannot be duplicated elsewhere.

Successful retail destination development relies upon the creation of a sense of community, with attractive pedestrian ways, public space and plazas, outdoor café seating, distinct façade design for each storefront and a mix of local businesses and chain anchors. They have more restaurants than is typical, along with higher proportions of leisure activity retail such as bookstores, electronics and video and children's stores. These developments have been done with and without structured parking. According to the Urban Land Institute, well-planned retail destination centers draw from a radius of 30 miles despite their small size, in comparison to the typical 15-mile market radius for a regional mall.

Financing for destination retail can be more complicated than a standard development because the projects themselves tend to involve higher up-front costs for infrastructure and amenities. Parking cost can be a particular problem. If structured parking becomes necessary to assure the ability to assure access to support sales and a wider choice of retail businesses at one location, costs can rise dramatically.

Parking is an issue for any type of retail development. Destination developments in city centers rely in part on adjoining parking that is used by office workers during the day, and thus the project does not need to provide all of its parking as part of the development. Creating a parking management strategy for Fairfax Boulevard will go far in enabling retail destinations. The City has already been pro-active on the issue of parking—what is necessary is carefully choosing locations and developing a management strategy that will help implement the Master Plan.

4. Mixed-Use on the Boulevard

Mixed-use development is the juxtaposition of different land uses in a single building or on a single site in a way that is hoped to be mutually beneficial to each use, and to the surrounding community. Mixed-use can be horizontal or vertical. Horizontal mixed-use is the combination of different uses next to each other. Vertical mixed-use is the combination of uses within single structures, such as the original structures lining Chain Bridge Road in Old Town Fairfax. Mixed-use projects need not be high-rise development; they can be accomplished at scales appropriate to their surrounding context.

Mixed-use often offers the opportunity to provide a transition between busy streets and adjacent neighborhoods. Mixed-use development where retail, office and housing are combined either vertically or horizontally is feasible where there is a market for retail and an unsatisfied demand for urban housing. Mixed-use development on corridors offers the opportunity to create housing and associated services without disrupting the fabric of local neighborhoods. It can also offer an opportunity to create ownership opportunities for one and two person households within a reasonable price range.

Because Fairfax Boulevard has been a major thoroughfare for the region, not just for the local market, it has the traffic and access that could allow destination retail centers and high-quality mixed-use development. Reconfiguring the boulevard to create a better pedestrian environment will allow the creation of these destinations. The Master Plan recommends three mixed-use retail centers along Fairfax Boulevard. Successful mixed-use areas tend to:

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[2] Plaza Del Mar (Del Mar, California) has approximately 70,000 square feet of retail over structured parking. The project is located along State Highway 1. The center of the development is a platform that is used as a pedestrian plaza. It was so successful that the developer sold a one-third share three years after development for more than his initial equity in the entire project.

[3] By "authentic" it is meant a district that has public access and amenities as opposed to the closed commercial environment provided by malls.

- be comprised of shops clustered in a walkable distance of 800 to 1,200 linear feet;
- have reasonable crossing distances for pedestrians (usually less than 60 feet) so that streets cease to be barriers;
- have retail on both sides of the street;
- have enough housing or employment within a five minute drive to yield up to 60 percent of the needed support for retail and services;
- have continuous building frontage without breaks for large parking lots or drive-through facilities; and,
- have a mix of retail and services that foster activity at night as well as during the day.

While for many cities mixed-use development is a new trend, Fairfax has a history in its historic Old Town of successful development incorporating retail and office uses together in high quality structures. Considering mixed-use development on Fairfax Boulevard could be a way to reinforce the historic character of past development patterns and emphasize the character and identity of Fairfax.

Many mixed-use projects combine residential with retail or employment uses. The factors that drive residential mixed-use are proximity to amenities, convenience in commuting, and access to services. As residential density rises, residents trade private outdoor open space for public amenities such as restaurants, retail and services, and employment within walking distance. Amenities make the residential units easier to rent or sell, and the proximity of customers supports the commercial, retail, and services. The additional local retail and services can be a benefit to the surrounding neighborhoods.

Successful mixed-use depends on development team experience (including the experience of the contractors available), financial capability, careful market assessment of each product, realistic financial assessment during the project concept phase, a supportive regulatory environment, and a supportive neighborhood.

The Plan for Northfax recommends a mixed-use neighborhood, including housing, offices, green spaces, and civic uses.

Fairfax has the developer capacity to facilitate mixed-use projects, but a stumbling block is the current land development regulations. A supportive regulatory environment must be in place for mixed-use to succeed. One key element of the form-based code proposed for the Boulevard is flexibility that allows developers to respond to the market while maintaining the intent of mixed-use — to produce a high-amenity, livable urban environment. Part of that environment of livability is maintained through careful physical design to achieve compatibility with established neighborhoods and to mitigate the effects of higher intensity development.

The proposed code offers the flexibility needed to allow developers to respond to the market, and easily understandable design direction to assure compatibility with surrounding land uses. By offering clear requirements and expedited approvals, the code will allow the market to respond to opportunities quickly, unleashing the ability of developers to assist the City in its process of change.

Vertical residential/commercial mixed-use development does appeal to a segment of the market. Even so, pioneering projects may require incentives, either regulatory or financial to lower *perceived* risk. On the other hand, mixed-use retail and office is a more-or-less standard product in Fairfax. Public-private partnerships between the City and the Fairfax Boulevard Partnership can leverage economic development funding mechanisms to help provide needed credit enhancements for pioneering projects.

Office employment is one of the primary components of a healthy local economy and helps to support hotels, retail, and restaurants in the area. Office development has been used in conjunction

with all of the types of redevelopment outlined. New office users are looking for amenities along with an aggregation of businesses of their type. In redevelopment, office is primarily used as a component of mixed-use retail projects but is a vital part of the mix. Retail businesses need ground floor space, so office can help to intensify land use and economic feasibility by making upper floors useful. At the same time, office development can be balanced with what is termed "24-hour" uses (movie theaters, restaurants, late-night cafes, shops, and bookstores with long hours) because the parking can be shared after office tenants leave for the day.

The mix of office and residential uses seeks to capitalize the cost of commute times by employees. This means that on Fairfax Boulevard, the juxtaposition of new housing opportunities in mixed-use projects with office can offer an opportunity to capture new business and employment for the City.

According to the Urban Land Institute (ULI), the increasing use of computers and technology and their effect on all office users has resulted in different requirements for office than in the past. Office users now need wiring and mechanical systems far more extensive than those found in older buildings, including[4]:

- wiring for local area networks,
- cable networks,
- satellite communications,
- wide area networks,
- high-quality electrical supplies with filtered current and surge protection, and
- enough electrical outlets to allow the free movement of partitions and office groups.

The needs of modern users dictate either renovation of existing space or development of new space. Typical floor plates to allow open offices are 10,000 square feet of usable area, but smaller sizes have been seen in areas supporting start-up businesses. Renovation of existing buildings depends upon floor-to-floor heights, the cost of, and ability, to retrofit mechanical systems, the size of structural bays on each floor, and other factors that must be evaluated for each building.

The need for flexibility and for extensive electrical system requirements applies to back-office uses as well as tech businesses and start-ups. Back office uses are the sort of administrative work necessary to keep a business running (including data processing and other operations functions) but not part of the functions of a headquarters office. Back-office processing of data and administrative work relies on electronic connections to distant headquarters. Headquarter locations are also sometimes chosen by managing executives (Microsoft in Redmond, WA for instance).

Mixed-use development would offer an opportunity to capture new business and employment for the City.

Another aspect of the changing office market is that tenants are looking for nearby amenities. In its 1999 report on office trends, ULI noted that new office users wanted access to restaurants, cafes that may be open late, banks or ATM facilities, and an attractive location. For this reason, there have been developers successfully locating new office in mixed-use projects that create a lively retail environment at the same time. The desire to be adjacent to amenities indicates a willingness to shift to "cool" urban locations that incorporate these amenities.

Given research on comparable office markets, much of the building stock on Fairfax Boulevard built before 1990 is likely to be functionally obsolete in light of the needs of modern users. As part of an economic development plan, an inventory of buildings and their characteristics should be undertaken to determine the means and cost to bring them up to date, if the building is of sufficient

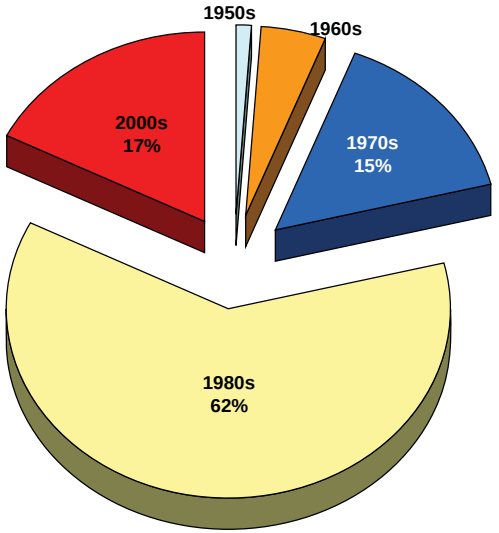


Chart 1: Office Square Footage in Corridor by Year Built
Source: City of Fairfax.

[4] Peiser, Richard, and Mouchly, Ehud. "The Impact of Technology," Urban Land Tech Trends Supplement, October1999.

quality and fits into the new guidelines for planned redevelopment. Poor quality buildings that are obsolete, on sites that are typically suburban (wide frontages with deep setbacks), should be offered planning assistance to redevelop the site to higher and better use so that the owners may participate in the financial gains from redevelopment on the Boulevard.

5. Open Space Improvements

Because of their beneficial economic impact, parks and open space should be planned as part of the structure of the renewed Fairfax Boulevard. Park and open space amenities can help act as a catalyst for positive change in urban environments. A historical example is Central Park in New York City where real estate values in the area around the park increased by nine times after its construction. Parks and open space also act as a magnet for visitors and increase positive perceptions of the urban areas in which they are located. Large developers such as the Rouse Corporation have successfully included green space in their developments to encourage visits and increase foot traffic.

Well-conceived parks and open space are a positive externality and confer value on the properties surrounding them. Proximity to attractive natural features or panoramic views is acknowledged as a factor in the value of housing units. For the reasons above, parks are included in the Master Plan as an integral part of the economic strategy for implementation.

ECONOMIC STRATEGY FOR THE BOULEVARD: THE IMPORTANCE OF PLACE

The future of real estate is about the quality of place. Cities as locations increasingly compete not only on access to markets and employees, but also on the community amenities that create places where people *want* to live and work. Such amenities include everything from community green space to the quality and attractiveness of housing stock to the local retail and services available. Creating high quality-of-life environments is not only attractive to residents, but also to retailers who appreciate that shoppers tend to stay longer and employers who are more competitive in the battle for labor by locating in places employees (people) *like* to be. Such synergies benefit everyone, including the city revenue office.

While there is a robust and expanding economy in the region, Fairfax Boulevard has not benefited proportionately. It must be emphasized that the option to do nothing on Fairfax Boulevard is not a choice, but is rather a decision to abandon the local business community to market forces beyond their control, market forces that have been producing decline on the corridor. Unchecked, this decline will continue. With this in mind, the following discussion on markets is intended to illustrate what could be feasible if actions are taken to create a competitive environment for development.

The Corridor and Old Town

By extending the character of Old Town Fairfax to the corridor it might be argued that the corridor will be in competition with planned development in Old Town. To some extent this would be true if the plan did address the connections and wayfinding from the corridor to Old Town. A revitalized corridor will have more residents, more visitors that are interested in Fairfax as a destination, and more local employees and employers. If connections to Old Town are made more explicit, the corridor should act as an enhanced calling card to introduce non-residents to the City of Fairfax, giving them a great first impression that is in keeping with the existing quality of Old Town.

To assure that development on the corridor has the least impact on existing local demand for Old Town Fairfax, residential and employment components

The proposed green network: Continuous pedestrian trails are provided throughout the plan to improve pedestrian connections between parks and open spaces.

have been added that are expected to draw new residents and users to the area. The particular market segments targeted are market segments that have not been well addressed in the corridor or in many places in the region for that matter. It is even possible that by bringing them to the corridor, the fact that they will now be in Fairfax may mean an increase in business for Old Town.

The Three Important Nodes

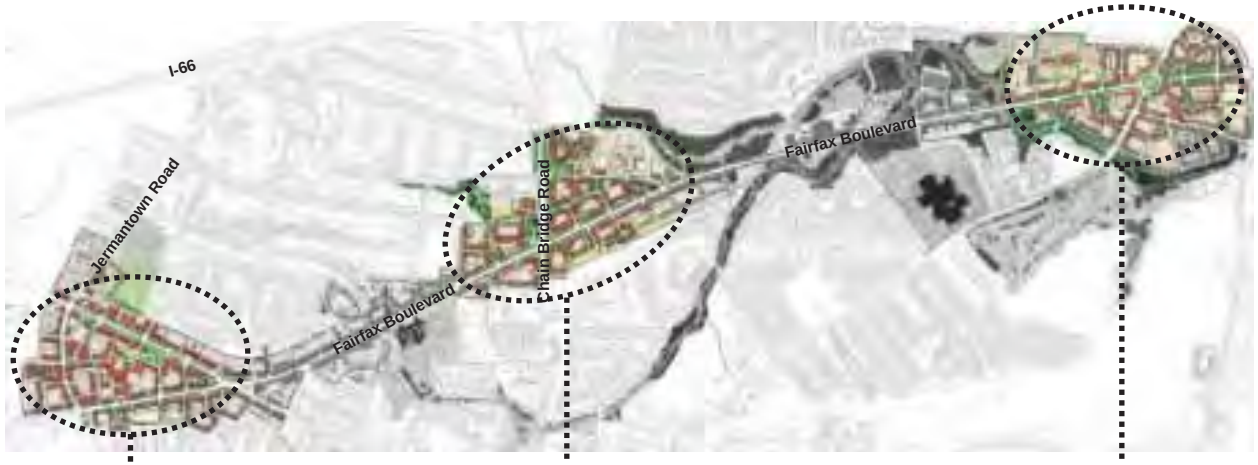
Based upon expected economic changes in the next five years, the most changes in form and intensity are expected at the three centers. There is not enough market demand to support mixed-use everywhere on the corridor, but there is enough to support such development at Kamp Washington, Northfax, and Fairfax Circle. For this reason, the Master Plan has a lower intensity of development in the connector areas between the centers. In the East Connector, future open space purchases are contemplated that will add to the value of local homes and assure the character of the area. In the West Connector the plan shows a slow change to more urban building styles.

EMPLOYMENT: THE RETURN TO AN URBAN SETTING

Employment location trends over the last decade in the Washington, D.C metropolitan region have gone in two directions. The first trend was the shift of large offices to locate (or relocate) in what are essentially exurban campuses such as those found on Maryland's 270 corridor or Tysons Corner in Fairfax County. This trend provided companies with secure buildings closer to a suburban workforce.

The second, and newer, trend is the reversal of the exurban trend, particularly for knowledge and professional service companies. The new favored strategy to attract and keep employees for these sectors has been to locate in traditional downtowns and walkable centers that offer amenities.

As the nature of business changes, attracting highly educated, talented, creative workers has become a growing challenge. Firms are successfully using location, lifestyle, and local housing choice to compete in the market for labor. Locations with these attributes have been particularly attractive to small businesses and startups, which often do not require



Suburban development: Familiar office park setting, separated from amenities

Traditional development: Georgetown offers amenities within walking distance.

Recent development: Bethesda Row's offices with amenities

the standard plate sizes of office park models, but need flexible space to expand. For example, in cities that provide these amenities this has enabled warehouse districts to reinvent themselves as technology centers by ensuring high-speed data connections and renovated space (note: not Class A with walnut boardroom trim) with modern power supplies and open floor plans.

Small business is important for producing vital employment sectors: in the 1990's small businesses accounted for two-thirds of all job creation, two-thirds of business growth, and over half of business innovation[5]. Applied to ten-year employment projections for Fairfax County, new small businesses seeking such locations could require as much as nine million square feet of space over the next ten years[6].

Fairfax is well located to respond to these markets if it is pro-active. A redeveloped corridor could provide office space and the amenities desired along with residential space for employees and business owners. Given its place in the center of a burgeoning business services and technology employment region, incentives often used by other cities are less of a necessity than the creation of the environment that these businesses are seeking. This built-in advantage has a time limit, however—others are noticing and responding to these market opportunities.

Trends in Fairfax County reflect national trends in employment: a declining manufacturing sector, led by growth in professional services, health and education. Projections from the Metropolitan Washington Council of Governments expect that employment growth in Northern Virginia will outpace the Maryland suburbs and the District of Columbia, and continue to be dominated by jobs in services. Although the City of Fairfax is projected to capture only approximately 3% of the county employment growth to 2015, providing amenities may create a much larger demand for offices and employment space. The City's submarket currently represents about 9% of the county. Using this proportion of projected growth would give Fairfax Boulevard the opportunity to support 950,000 square feet of employment space in the next ten years.

RETAIL: COMPETING IN THE REGIONAL MARKET

The situation for retail on Fairfax Boulevard is complicated. The current stock is aging auto-oriented strip centers from an era that does not reflect the current demographic profile of the city and is being out-competed by centers that do recognize the new preferences. Most of the retail on Fairfax Boulevard is from an era of smooth traffic flow when people had different expectations of retail destinations.

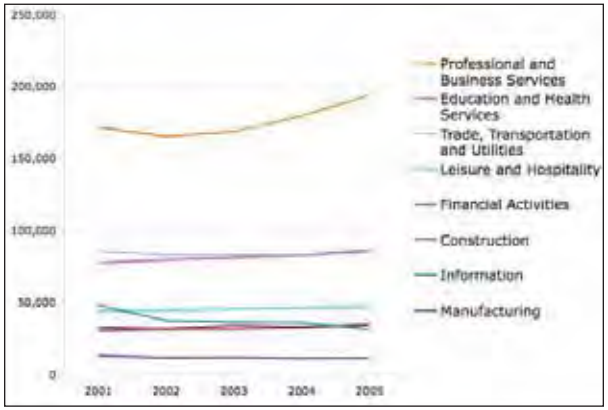


Chart 2: Trends of employment in Fairfax County
Source: Virginia Employment Commission & Urban Advisors Ltd.

As discussed earlier, people are now more likely to shop at destinations with high economic utility and a sense of place—development that has public space, amenities and unique offerings. The current building stock was created prior to these market preferences and much of it is now functionally and economically obsolete in today's market.

To understand the retail climate for change, Urban Advisors looked at drive time studies showing change in population and spending for each of the three nodes, and then assessed capture in relation to existing adjoining retail offerings. At one end of the corridor, Kamp Washington finds itself in competition with two major malls within a two-mile radius. At the other end, Fairfax Circle is in competition with new development at the Vienna metro location. Northfax, at the center of the corridor is in a better position for market capture if the offerings and environment can be improved.

While Fairfax does have competition, area growth within and near the corridor indicates a robust future market for various types of retail and services (see Chart 4).

A conservative estimate of demand for the Kamp Washington location indicates support for 75,000 square feet of additional retail space in five years; a small difference, but enough to catalyze change in a mixed-use development. Fairfax Circle, while constrained by difficult parcel patterns could, however, over five years support 137,000 additional square feet of retail.

Northfax has the most promise to become a successful retail and community center in the short term. Projected growth and increased capture in the trade area alone over five years will support 500,000 to 600,000 square feet of new retail uses;

5 (David Birch, Cogenics)
6 Based upon Metro Washington, D.C. Council of Government estimates using information from David Birch of Cogenics.

enough to support a major new retail development. To make these locations attractive and successful for retailers, the Master Plan suggests a number of changes. First among these is the creation of a walkable street network, not just on the corridor but also within each node. This primary change will set the stage for future change; it will establish a more town-like framework matching the quality of Old Town Fairfax. Doing so will make these areas attractive for employment to support retail during the day, and attractive to new residential development to provide high capture of consumer spending and enable vital high utility districts.

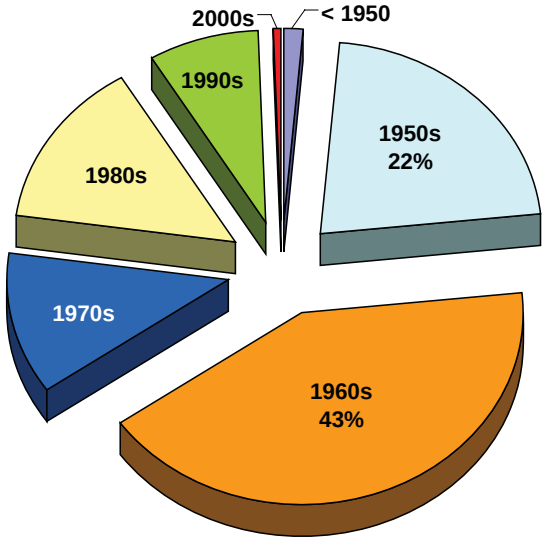


Chart 3: Retail Square Footage in Corridor by Year Built
Source: City of Fairfax.

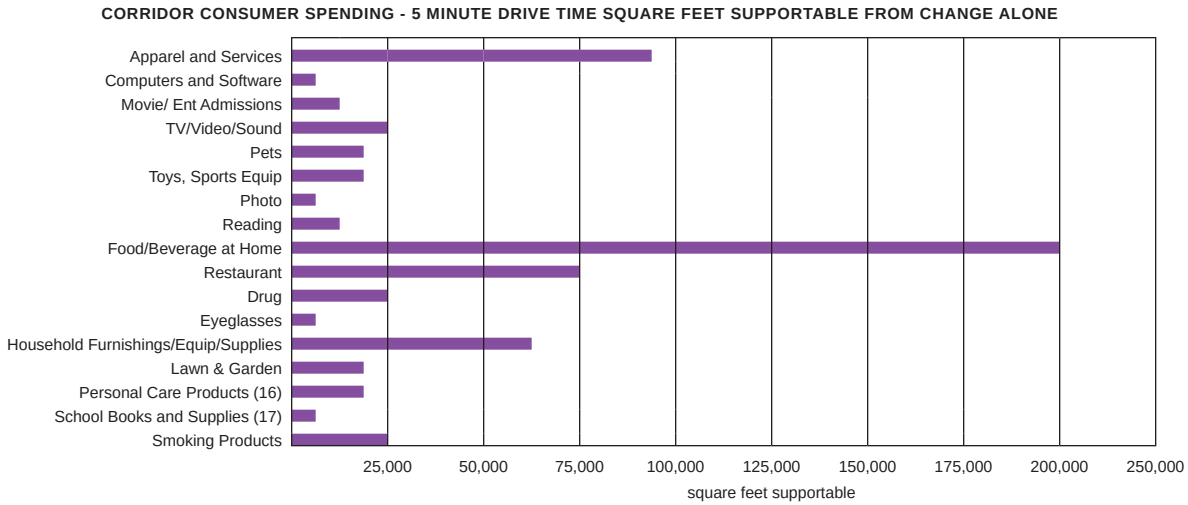


Chart 4: Space Supported By Corridor Change*
This chart enumerates only the new spending available to support business between 2006 and 2011—in other words it assumes that there is no capture of current spending—and thus the numbers shown represent additional and not total space demand. Total space demand is much larger but would include existing facilities.

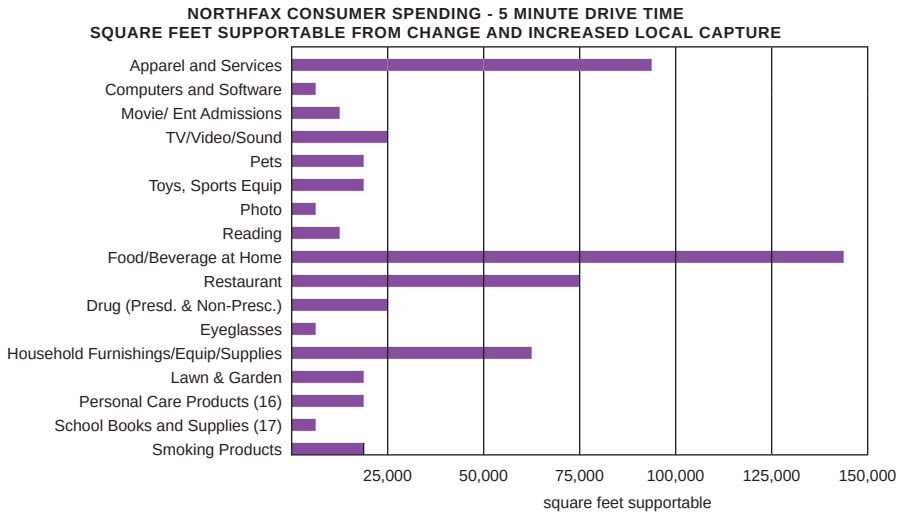


Chart 5: Northfax Retail Space Demand by 2011

HOUSING: PROVIDING A VARIETY OF CHOICES

When understanding the potential for housing, the market is regional rather than local. Urban Advisors looked at trends by regional planning agencies and data from ESRI Business Information Services (ESRI BIS). According to the Metropolitan Washington Council of Governments, the number of Fairfax County households is projected to annually grow at 1.7% to 2010, on par with the Metropolitan Statistical Area (MSA) but below the 2.4% for Northern Virginia. The city, by the same regional forecast, will grow by 1.2% annually to 2010, adding 100 households annually. Meanwhile the county is expected to grow annually by 6,500 households[7]. ESRI BIS is less optimistic but still projects that Fairfax County will add 17,135 households between 2006 and 2011, or 3,427 annually.

The question for Fairfax is one of capture as opposed to a lack of market demand. Fairfax itself is *projected* to capture a relatively small portion of the projected regional growth—in the range of 900 households in five years. Projections of the near future, however, are often based on the recent past and expectations based upon existing land use patterns. Forecasts rarely account for the redevelopment of land with more efficient uses, and cannot account for potential changes in planning and policy. In other words, the future is not determined; regional growth suggests a potential, but not inevitable demand for housing. So the issue for housing capture is what kind of housing can be proposed in the redevelopment of Fairfax Boulevard that will attract a significant share of future homeowners.

7 "Growth Trends to 2030: Cooperative Forecasting in the Washington Region," Membership of the Metropolitan Washington Council of Governments, Fall 2006.

The Fairfax Boulevard Master Plan introduces a series of housing types based upon the preferences of demographic segments that favor a more urban lifestyle, as opposed to those in the market for single family homes on large lots. While this demographic segment forms only a portion of total households, their numbers are still significant. The mix of proposed housing types is in keeping with the desires of Fairfax residents to have a high-quality mix of uses along the Boulevard.

To understand the potential for residential units in the study area, Urban Advisors identified market segments that comprise the local housing market demographics using ESRI BIS data on lifestyle categories. ESRI BIS provides "Tapestry" life-style segmentation of local populations along national categories. Their categories identify likely markets for different products and consumer preferences based on their socioeconomic and demographic profiles. Categories have labels such as "Laptops and Lattes," "Rustbelt Retirees," and "Exurbanites"; titles that attempt to describe the profiled group. The current breakdown of these segments is shown in Chart 6.

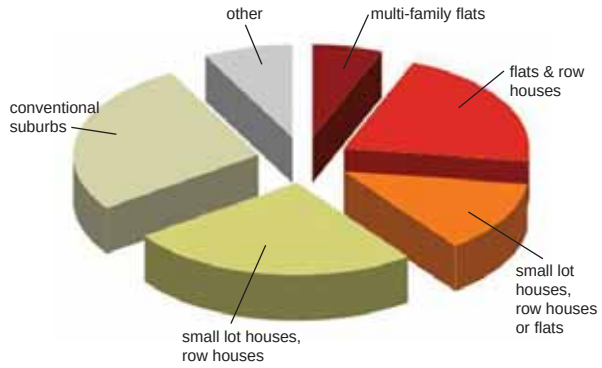


Chart 6: Fairfax County Housing Preferences by Segmentation, 2006
Source: Virginia Employment Commission & Urban Advisors Ltd.

Based on the demographic segmentation of the county, 40% of households are likely to prefer flats or rowhouses and 25% are likely to prefer small lot housing; all prefer access to neighborhood amenities. This estimation directly corresponds to national surveys that suggest 40% of the population would prefer to live in attached units (flats, or rowhouses) and 30% would prefer detached units on small lots; concluding that a full 70% of people prefer traditional town building styles, and most people (over 50%) want to be able to walk to neighborhood retail. Also according to Arthur C. Nelson, PhD and the U.S. Department of Transportation / Federal Transportation Authority by 2025 25% to 50% of new development will locate within transit corridors—corridors presumably like Fairfax Boulevard[8].

8 "The Next $50 Trillion", Arthur C. Nelson, PhD, FAICP, Virginia Tech- Alexandria Center, February 2006.

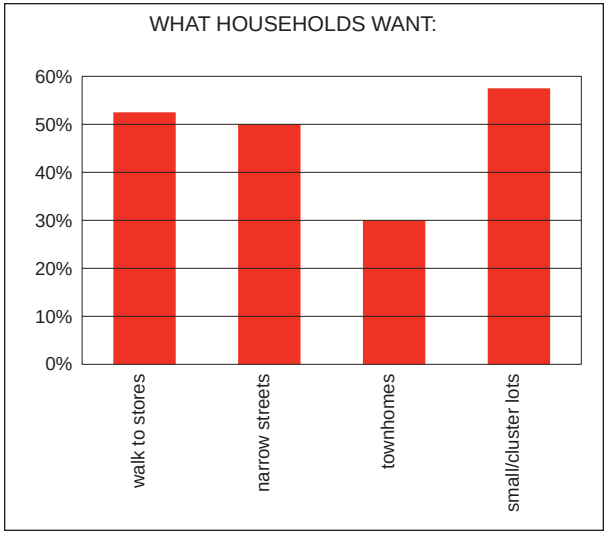


Chart 7: What households want
Arthur C. Nelson, Ph.D, FAICP, Professor & Director Urban Affairs & Planning Virginia Tech & Alexandria Center, February 15, 2006

Few places in Fairfax County have the opportunity to appeal to the preferences of these growing demographic segments. The towns of Clifton, Herndon and Vienna, Reston Town Center, the City of Falls Church and (assuming the current planning initiative changes its current growth pattern) Tysons Corner are the only alternatives. Based on the relatively few options, it seems likely that providing amenities on Fairfax Boulevard will make it an attractive location for more than the projected percentage of county growth. At the same time, it is necessary to be conservative about demand until the market is proven. While there are many households that would prefer to live in a quality urban environment, many are not pioneers. The unmet demand for such units is high, based on demographics, but the plan does not assume the necessity of capturing that demand—the figures presented are based upon change. As the area develops, it can be expected that the more cautious investor will feel safe to participate and demand will likely accelerate.

To translate these preferences into an estimate of the number and types of units, Urban Advisors applied market segmentation data to Fairfax County growth trends. The results are shown in the Tables 2 and 3 . Examples of the specific types of housing appealing to each segment are shown on the following page.

The annual demand numbers are conservative. This is in keeping with the current economic downturn in housing development, but is also a reflection of the need for caution in a pioneering market. As changes take place in the street form and as amenities begin to appear and sales take place, a second wave of investment by prospective homeowners can be expected that is more likely to reflect the extent of suppressed demand in the area.

Table 2: Fairfax County growth trends – Demographics.

Fairfax County Growth to 2015		49,000 HH
Enterprising Professionals	20%	
Wealthy Seaboard Suburbs	11%	
In Style	6%	
Urban Chic	3%	
Trendsetters	1%	
Total Target Segments		41%
New Target Households		20,000 HH
Fairfax Boulevard Capture		14%
8 year study area growth		2,800 hh
Annualized		350 hh per year

Table 3: Fairfax County growth trends – Building Types

8 Year County Housing Demand			49,000
Flats		26%	12,800
Row Houses		14%	7,100
Small Lot		25%	12,300
Conventional SF		27%	13,100
Study Area Housing Demand		8 Year	Annual
Target market		2,800	350
Flats	44%	1200	150
Row Houses	24%	700	90
Small Lot	32%	900	110

Housing Market Segments

Enterprising Professionals (20%)

Enterprising Professionals are young, educated, working professionals who prefer newer neighborhoods with row houses or flats. This fast-growing market is ranked second of all segments for labor force participation; their median household income nationally was over $66,000 in 2005—in the Washington, D.C. metro area it is higher.

Wealthy Seaboard Suburbs (11%)

Wealthy Seaboard Suburbs consist of married-couple families in established quarters of affluence in metropolitan areas. Approximately half of employed persons are in management and professional occupations. They prefer older style neighborhoods with house values that exceed $450,000.

In Style (6%)

In Style families live in affluent neighborhoods in single-family homes and townhouses close to urban amenities. Living an urban lifestyle, these are mostly professional couples one-third of which have children.

Urban Chic (3%)

Urban Chic residents are well-educated professionals who prefer an urban, exclusive lifestyle. Most own single-family homes with a median value of $633,000 in urban neighborhoods. This segment includes married-couple families and singles, with a median age of 41.4 years.

Trendsetters (1%)

Trendsetters are on the cutting edge of style, young, diverse, mobile, educated professionals with substantive jobs. More than half are single-person or shared, most still rent, preferring upscale, multi-unit dwellings in established city districts.

Single-Family Small-Lot Homes

Rowhouses and traditional main street with urban amenities that serve the neighborhood

Apartments and townhouses

ECONOMIC CONCLUSIONS

A review of the economic trends yields one major conclusion: there is sufficient demand to support redevelopment on Fairfax Boulevard, but only if the development types (including the shape of the corridor itself) are changed. Cosmetic building changes, with the same suburban style of streets, setbacks, separations between uses—in other words, further strip development with low utility—will not endow the corridor with the attributes for successful competition in future markets. Fortunately, given the existing level of organization of the City and business community, Fairfax has the capacity to implement these changes.

The Master Plan balances the desires of current Fairfax residents while also addressing the requirements for successful pedestrian oriented mixed-use development. The market is supportive of this development, but only if it contains all of the elements outlined by the Master Plan. The redesign of the Boulevard cannot be pulled out of the plan for instance; the streets and the development they adjoin are integrated and cannot be separated. Likewise, retail and residential mixed-use are not optional—the combination is critical for providing vitality that helps draw customers from a wider radius, thus increasing the capture of the businesses on the corridor. The mix of uses in compact, walkable development is itself a draw that captures the customers, employment, and residents of the future. If the City and its residents are willing to take the steps to accomplish the plan, the market support is there.

implementation 7

The vision for Fairfax Boulevard has been documented in the preceding chapters of this report through plans, illustrations, and text. This chapter identifies the necessary steps for realizing the Boulevard depicted in the imagery, transforming the community vision into a built reality. The following steps address policy recommendations, regulatory changes, public-private partnerships, redevelopment mechanisms, economic development goals, and funding options.

POLICY RECOMMENDATIONS AND REGULATORY CHANGES

1. Adopt the Fairfax Boulevard Master Plan

The Fairfax Boulevard Master Plan should be adopted by City Council as an amendment to the City's Comprehensive Plan, giving the plan official standing. Adopting the plan sends an important message to property owners and residents that the political decision makers support the plan and that the City intends to implement its principles. City staff and members of the Planning Commission will have a clear direction to instruct applicants to meet the goals of the plan.

2. Adopt the Form-Based Code for Fairfax Boulevard

The review of existing zoning regulations and site analysis indicated that in many cases the zoning requirements for the properties along Fairfax Boulevard does not match the goals of the community. Appropriate regulation that is supportive of community endorsed planning policies can encourage development by providing clarity and certainty. A zoning process that requires additional hearings and variances increases the risk of time and money to developers. By establishing clear zoning standards that support the City's vision and provide a visual guide to design criteria, investors can be certain that their project will be approved. Neighbors can also be assured that what gets developed will be desirable, not harmful, to the neighborhoods adjacent to the Boulevard.

A Form-Based Code is a land development regulatory tool that places primary emphasis on the physical form of the built environment with the end goal of producing a specific type of "place". Conventional zoning strictly controls land-use, through abstract regulatory statistics, which can result in very different physical environments. The base principle of form-based coding is that design is more important than use. Simple and clear graphic prescriptions for building height, how a building is placed on site, and building elements (such as location of windows, doors, etc) are used to control development. Land-use is not ignored, but regulated using broad parameters that can better respond to market economics, while also prohibiting undesirable uses.

A Form-Based Code for the Boulevard would allow by-right development of property in congruence with standards set forth in the code. The new code would streamline the process of getting projects approved because the Fairfax Boulevard Master Plan already incorporates significant public investment in the planning process and consensus around the plan. The City of Fairfax Zoning Ordinance should be amended to include the Fairfax Boulevard District Code (see Appendix A).

3. Create the Position of City Architect

The role of the City Architect should be established to administer the review process for the development and redevelopment of properties within the Fairfax Boulevard Business Improvement District. The City Architect would oversee the application of the Fairfax Boulevard District Code and act as a facilitator, guiding projects through a streamlined approval process; the City Architect should be empowered with the authority to confirm compliance with the code and to deny applications that, in his/her opinion, do not comply. The City Architect should be an urban designer or architect and must be familiar with traditional town planning and New Urbanist principles. The City Architect would work with prospective developers and property owners to show how the Fairfax Boulevard District Code can satisfy their site needs in an efficient manner. The City Architect would work under the direction of the Planning Director and would assist developers, tenants, property owners, and the City in achieving the goals of the Fairfax Boulevard Master Plan and Fairfax Boulevard District Code.

4. Appoint a Development Coordinator

The City needs the capacity to inform businesses and citizens of available development and funding opportunities. Facilitating the implementation actions and providing support and organization for local businesses and neighbors will require a full-time position. The city should create a Development Coordinator staff position to begin the implementation of the Fairfax Boulevard Master Plan. This person should have full understanding of the principles and intent of the plan. This person would also work with developers and property owners to strategize on redevelopment opportunities along the corridor, assist businesses and public agencies with grant and loan applications, direct willing property owners to the resources needed for development, organize marketing campaigns, and administer programs as necessary.

5. Streamline Development Procedures and Approvals Process

Part of attracting quality development consists of making the process of approvals transparent and reasonably expeditious. This is typically done through appointing a lead person to guide each application through the process. It is recommended that the city undertake all appropriate methods for streamlining development procedures and the approvals process and that the City Architect and Development Coordinator positions be created to oversee the process and ensure that reforms are successful.

PLANNING STRATEGY

6. Confirm Physical and Regulatory Conditions

The Fairfax Boulevard Master Plan was created with the best information available regarding rights-of-way, property lines, existing building locations, easements, utility limitations, and covenants tied to individual properties. However, as site-specific applications come forward and City improvements are undertaken, modifications to the Master Plan will be necessary to incorporate accurate surveys and specific site analysis. Part of the process of carrying out the Fairfax Boulevard Master Plan should involve regular updates to the City's GIS system with information on the physical conditions of individual properties as development occurs.

7. Conduct Annual Inventory of Land Uses and Correlate it With Economic Data

An annual inventory of land use correlated with economic data in the City's GIS system allows prospective developers and businesses to understand the supply and thus the need or demand for various land uses. The inventories should include housing, retail, office, and industrial uses, among others. The inventories would show opportunities in the market as well as trends of current redevelopment. The City should conduct annual inventories of its land use using the GIS system, and make the aggregated results, subject to privacy rules, available on the City's website. For more information, please see Appendix B - "Using GIS to Plan for Economic Development."

8. Create a Redevelopment Targeting Strategy

Using the Illustrative Master Plan as a guide, a strategy should be developed to identify and target vacant, under-utilized or "soft" properties that detract from the quality of Fairfax Boulevard in areas that the Master Plan indicates for future change. Vacant land and derelict buildings offer opportunities for change and redevelopment. In order to capitalize on these opportunities it is necessary to inventory and map the locations of vacant land and derelict buildings and then target new users and promote the inventoried opportunities to new investors. The city can use its extensive GIS system to begin to identify a list of properties that might benefit from redevelopment; this can be done as a part of the annual inventory of land use.

Many property owners along the Boulevard are not developers, and have neither the knowledge nor the appetite for risk that is required in development. For this reason, the City should partner with the Fairfax Boulevard Partnership to identify properties that are a priority for redevelopment, whose owners may wish to redevelop but lack the expertise, and connect these property owners with developers, legal assistance, and impartial financial expertise that will encourage appropriate development to the benefit of all parties. The Development Coordinator should be appointed to manage such efforts and would also act as a liaison to groups including the Chamber of Commerce and the Fairfax Boulevard Partnership to assist in their coordinated efforts to improve the Boulevard.

9. Establish a Parcel Assembly Program

The City and the Partnership working together have the ability, and some of the funding resources, to consolidate parcels of land for the purposes of redevelopment and economic development. One strategy for encouraging new development is the identification of opportunity sites (as shown in the Illustrative Master Plan and the consolidation of parcels to allow development at a scale that offers feasibility for the type of place desired. Alternatively, the City could establish a land bank with assistance from the Fairfax Boulevard Partnership. This could be done through a new 503C non-profit that would allow members of the community to contribute and would allow donations from other funding and grant sources as well. The land bank would then use revolving funds to acquire and assemble key sites and solicit preferred development alternatives. It is suggested that the City and other economic development partners collaborate on the formation of a land bank to acquire key opportunity parcels along Fairfax Boulevard to preserve them for appropriate and supportive development. This format would greatly extend the funding ability of both the City and the Partnership by inviting collaboration and funding from a variety of sources.

10. Acquire Green Space

The City should actively work to acquire properties for green space to further complete the green network and stormwater management strategy along Fairfax Boulevard. Properties to acquire include those with scenic, wildlife, stormwater, or recreational values, among others. These areas have been identified in the green network diagram. The City should allocate money in its general fund and

seek private sources to acquire land as depicted in the Illustrative Master Plan for additional trails, greens, and park space.

11. Transform Stormwater Improvements into Water Features

The present stormwater facilities along the Boulevard are open ditches and open culvert inlets. While these are no doubt effective, some are unsightly and some may actually be hazardous for pedestrians because of their adjacency to pedestrian access along the right of way. Attention to these features may seem like a detail, but water features have been, for centuries, part of the most desirable urban environments. The proposal for Fairfax Boulevard is to take a necessity and turn it into an amenity that will add to the attractiveness of the natural environment and thereby to the economic welfare of the adjoining development. Typically, there is a ten to fifteen percent premium in value for properties next to attractive natural water features and their associated landscapes.

12. Establish a Pilot Project Program

To further stimulate revitalization of Fairfax Boulevard, the City should challenge private developers to submit proposals for infill development or redevelopment projects to become selected as a "pilot project." A pilot project would be one that exemplifies the goals and vision of the Fairfax Boulevard Master Plan, serving as a model example of appropriate development for the area. A variety of incentives and assistance could be offered without diminishing expected City revenues from new development, including land assembly, provision of parking and infrastructure through tax increment funding, and assistance from the Fairfax Boulevard Partnership. The pilot project could also receive assistance from City staff, including planning expertise and expedited approvals, with the understanding that the final design must follow traditional urban planning principles, conform to the Master Plan and Fairfax Boulevard District Code, and meet City approval. The pilot project program should be promoted by the City as a way to raise awareness about Fairfax Boulevard, demonstrate the City's support for private investment, and expedite the revitalization of the Boulevard.

ECONOMIC DEVELOPMENT STRATEGY

The primary strategy for the City to reinvigorate Fairfax Boulevard is to play to its strengths and the strengths of the City as a whole. The City of Fairfax has a preserved historic core that is being further enhanced. If the Boulevard can be redeveloped in ways that are in keeping with (without necessarily copying) this historic and traditional character, a unique identity for the Boulevard will be established. Fairfax Boulevard has many attributes that make it attractive for redevelopment.

Fairfax Boulevard has:

- a central location in the region;
- three distinct centers of activity with excellent access; and
- proximate neighborhoods within walking distance to lend support for local businesses:
- an active, vital, organized and supportive business community willing to assist in funding (through the BID); and, importantly,
- pro-active city leadership determined to produce desirable, positive change.

The challenges for Fairfax Boulevard are in a series of gaps – gaps in the urban fabric of the Boulevard, gaps in pedestrian access between the proximate residential neighborhoods, and the services provided on the Boulevard, gaps in the offerings of housing types and employment opportunities available, gaps in the development approvals process that yield uncertainty, and gaps in the infrastructure that supports pedestrian activity and public spaces. Addressing these gaps is the goal of the economic development strategy for Fairfax Boulevard.

To begin closing the gaps along the Corridor, a set of achievable strategies has been formed based upon the strength of the market and community input.

- Add retail at the nodes:
  Fairfax Circle: 137,000 square feet of additional retail
  Northfax: a goal of 500,000 – 600,000 square feet of retail
  Kamp Washington: a goal of 17,000 square feet of additional retail

- Add office employment:
  A goal of 950,000 square feet of additional office space, based on 10-year proportional capture

- Add residential:
  Capture 10%/16% of total expected county growth through 2011
  670 lofts and flats
  370 row houses
  690 village houses
  Total of 1,730 residential units

13. The Retail Strategy

The retail strategy for Fairfax Boulevard relies upon the conversion of the corridor from the strip-commercial model of capture to the amenity driven destination model of capture. Strip development relies on capturing small percentages of spending from large volumes of pass-through traffic. The destination model provides economic utility and an

enticing, entertaining environment that increases local capture while also capturing the passing traffic. Because of this ability to capture both facets of the market, the destination model is currently being used by most large retail development entities. This is not a new model—it was the basis for the creation of the modern shopping mall and has been refined over the last two decades through competitive action by mall owners. Fairfax Boulevard has been losing market share to higher quality development such as Fairfax Corner. This plan offers a strategy and design for successfully competing and recapturing local markets while still enjoying the sales from passing traffic.

In order to compete with the newer retail formats emerging just outside of City boundaries, Fairfax Boulevard needs to become a walkable environment, with managed parking, housing, and workplaces that provides high-capture support for retail activities. Creating this environment with its diverse housing opportunities will encourage the location of new employment. On the part of the City and the Partnership, there is a need for aggressive marketing to likely industry sectors. There is also the need for a pro-active use of the City's GIS database to identify development opportunities, for assistance to the private sector in obtaining funding, and especially for providing future business with certainty by streamlining processes and simplicity in approvals.

The Fairfax Boulevard Master Plan shows design paradigms for the three different nodes where retail should be concentrated: Fairfax Circle, Northfax, and Kamp Washington. Each has been assessed for short-term retail potential given local competition and the constraints of existing land use. As outlined in the Master Plan, all will rely upon the City and the Partnership working together to set the stage for the future by creating the necessary street improvements to create a walkable environment for these sections of the corridor.

Actively Target New Businesses

As each component of the Fairfax Boulevard Master Plan is implemented, it is imperative to keep a detailed list of businesses and services that should be targeted to locate (or relocate) along Fairfax Boulevard. While one or more new national tenants may be sought by developers to "anchor" each node within the Fairfax Boulevard corridor, the economic strategy also addresses small business retention and recruitment in the section on funding that follows (see the comments on small business and the market in the economics section). This effort requires focus and tenacity as well as the right market to attract the attention of desired retailers and employment. Using the funding strategies outlined, Fairfax should look for local tenants and new small businesses that will open new locations on Fairfax Boulevard. Successful owners of popular local businesses could ride the popular support from their current location to support their expansion to a second location. New business would add to the economic utility and the fun of exploring new offerings. As part of attracting both local and national tenants to Fairfax Boulevard, the City should promote the development of smaller retail spaces for incubating businesses as well as larger spaces for the relocation of successful business as they grow.

Create A Network of Streets

Streets are arguably the most important element of this master plan because street types and commercial success are interwoven. In general, big streets get businesses that have a form responding to high speed traffic with deep setbacks, long frontages and large signage. Small streets get businesses that have forms that respond to pedestrian traffic and the ability for slow moving traffic to see small signage and short shopfronts. Asking for shopfront or mixed-use retail on a large high speed corridor with no on-street parking is asking for business owners to commit retail suicide. The dilemma is resolved by transforming Fairfax Boulevard into a true boulevard that allows both small, pedestrian-oriented business and large retailers taking advantage of pass-through traffic.

Creating street networks is essential for guaranteeing businesses access to customers; good street networks encourage more people to visit and stay, even at night. A closely knit street network encourages pedestrian activity, yielding a sense of safety—safety from traffic as cars glide past slowly, safety due to the presence of pedestrians, and safety because of the presence of open shops which have the requisite auto and foot traffic to stay open and keep the lights on at night. Young couples, empty nesters and seniors like to live in these environments because of the easy access to retail and services without the use of cars. The street network sets the stage for all of this activity.

14. The Office Strategy

The strategy for office in the Master Plan is to provide an amenity rich environment in attractive surroundings with appropriate housing opportunities that will appeal to employees and thus employers. In the economic section, Urban Advisors outlined the growth of employment in the region. A large amount of employees in technical and professional services are part of the same demographic for which there is unmet residential demand in the region due to the few locations offering urban housing opportunities close to work. The key to attracting the best new employment is to have modern urban housing options that fit employees'

needs and desires. The current housing stock in Fairfax, however, was built with a traditional family household in mind (two parents and two children) but the households of the next generation of high-tech jobseekers in Fairfax do not fit this stereotype. Other studies undertaken by Urban Advisors have demonstrated that many of the business types that are driving the Fairfax County economy now prefer high amenity locations with high quality housing adjacent that matches their preferences.

Fairfax has many assets to recommend it to employers if it will carry out the Master Plan: amenity rich retail and service locations, quality housing opportunities near employment, easy access to a beautiful open space network, a charming historic center, and a central regional location that is much better than being located near Dulles, or some of the other outlying traffic-choked development. In addition, in the section that follows on funding we have outlined sources for providing local assistance to businesses to make these opportunities even more attractive.

Based upon the plan providing these amenities, the goal for capture has been set at 950,000 square feet of new employment space on the corridor. This goal relies only upon capturing a sliver of total employment in the region. There are few locations that offer the environment envisioned in the Master Plan; the objective of the plan is to make Fairfax Boulevard competitive based upon earlier research on business preferences.

15. The Housing Strategy

The Conceptual Build-out Plan shows housing of a variety of types in a variety of locations. The form for these units is shown in the drawings and the form-based code sections of the plan. Urban Advisors has formulated a short-term set of goals for housing and the Master Plan indicates locations for each type. Discussions with local developers during the charrette indicate such strong interest in this part of the plan that little further intervention on the part of the city is necessary if the plan, code and associated administrative recommendations are adopted.

One of the most important features of the Master Plan is its care in ensuring that any new development adjacent to existing neighborhoods is consistent with the quality, character and scale of the neighborhoods. The city can assist the creation of appropriate housing shown in the plan in two ways. One is to assure that housing is compatible with existing neighborhoods but also follows the plan guidelines so that it does act as a transition in places where that is necessary. Another is to assist appropriate development with a strategy for allocating infrastructure funding to enable the production of housing to support future employment and retail uses. In addition, as noted above, parcel assembly may be necessary to assure that sites are economically viable for development.

A final element in the strategy for housing is to provide a mix and range of units. Traditional neighborhoods, even in villages, include mansions for the great, modest homes for the people who serve them, and comfortable homes for those in the middle. Providing this mix allows young families to start in one neighborhood and to move up in the same neighborhood as they grow in their careers and their lives change. When the children are gone, the neighborhood can offer them a more compact place to live, while those who are younger and entering the years of child-raising move up to the house vacated. Further, the provision of senior housing close to services means that as they age, the same couple can find a place to live in their own neighborhood, among their friends and relatives, instead of moving to a place where no-one knows them.

Accomplishing this goal, of a complete neighborhood, for all ages, is, sadly, not the way housing is done today. In order to help enable this type of neighborhood we have included information on low-income housing tax credits and senior housing tax credits. Many people feel that the use of these credits indicates a desire to put “projects” into neighborhoods. On the contrary, given current housing costs, it really means providing residences for young city employees such as firemen and police recruits, young teachers of your children, people who start local businesses that you enjoy (and that the corridor needs), the members of your community that you meet every day who support your lifestyle and who, as they age, become valued community participants with deep roots in the community. Providing the full lifecycle of housing integrated into the community means that you will always keep your community young and vital and you will never turn your back on your eldest, wisest residents.

16. The Parking Strategy

Creating a vital corridor will require a coordinated strategy for parking; the codes must change to allow shared surface and structured parking versus on-site surface solutions for each new development. For the business district to compete, existing, large surface parking lots that lie between the roadway and commercial buildings must give way to mixed-use development that is oriented to the street and pedestrian-friendly. On-street parking must be encouraged wherever possible, and private parking facilities must be located behind buildings, to the interior, of blocks, or within structured parking decks that are designed to be compatible with pedestrian-oriented streets.

Regarding the type of parking to be provided, on-street, parallel parking is the most pedestrian-friendly form of parking for the three nodes. It provides direct access to the adjacent commercial establishments and provides a traffic calming effect on urban streets. Surface parking lots, while they provide low cost vehicle storage, are detrimental to walkability on Fairfax Boulevard. Especially within the three nodes, the long-term goal of redevelopment should be to transform all sizable surface lots to structured parking with liner buildings. It will be necessary for the city and the Partnership to provide some of the parking in advance of redevelopment so that the development can achieve financing, since some bankers often still view parking as vital to success. It is suggested that the City and the Partnership provide the parking for initial redevelopment and recoup costs by charging new development over time through a mechanism such as the business improvement district, through potential tax increment funding, and through direct payment from new development of in-lieu parking fees.

PUBLIC-PRIVATE PARTNERSHIPS

Fairfax Boulevard is a complicated matrix with many players and overlapping constituencies that produce overlapping responsibilities. This complex social and institutional structure means that a number of stakeholders need to be involved from both public and private sectors for the plan to achieve success. Fortunately for Fairfax, it has a pro-active City leadership, an active business community and active citizen support for change on the Boulevard. The Fairfax Boulevard Partnership has already agreed to tax itself through a Business Improvement District so that it has the resources to partner with the City in funding improvements. Interviews with developers indicated that with an improved regulatory environment, they would be willing to proceed with plans based on the market alone. Interviews also indicated that parcel assembly in Northfax, and possibly in Fairfax Circle, would result in better projects with greater ability to capture market share. Developers also expressed a need to find better mechanisms than in the current zoning code for producing parking. With these concerns in mind, our finding is that public private partnerships should concentrate primarily on land assembly and provision of parking. In addition, public-private partnerships can help to provide special projects or amenities in the reconstruction of the corridor itself that will add to the pedestrian amenities. Specific areas for such participation, including roles and responsibilities, are shown in the Implementation Matrix.

FUNDING MECHANISMS

To achieve the goals of the Fairfax Boulevard Master Plan, a variety of funding sources will be needed. Funding mechanisms for capital improvements include the Fairfax Boulevard Business Improvement District, grants from public and private sources, general obligation bonds approved by the public, donations, and general fund expenditures. The following descriptions provide additional detail about potential financial assistance for public capital improvement projects and private redevelopment initiatives.

17. Tax Increment Financing

One of the more powerful options available for funding infrastructure and parking is the creation of a corridor tax increment district. Tax increment financing is a mechanism that allows bonding based upon future increases in the local tax base. The way it works is that property tax increases (the increment) over current tax revenues are reserved for a period of time to pay for improvements that enable the development to happen. To use an example, if a property is currently worth $100,000, but is redeveloped to a value of $1,000,000, the difference in property tax revenue between the current value and the future value, or the tax on $900,000 is captured for use in providing debt service for bonding. The tax on current value still goes into the general fund, and, under the Virginia enabling statute, any tax increment not used each year also goes into the general fund annually. What this means is that the city is not obligated to take all of the increment for redevelopment purposes; it can allocate as much or as little as it likes and leave the rest to pay for generals fund priorities.

Tax increment financing can be used for building streets, providing sidewalks and pedestrian amenities, undergrounding utilities, supporting new development through land acquisition, and purchasing greenspace if the purpose furthers economic development.

18. Grants

There are a number of federal grants available for redevelopment and community service purposes as well as grants for infrastructure. The Federal Department of Transportation also has grants for infrastructure, including funding for roads and highways and innovative transportation grants for research and implementation of alternative transportation.

Private grants from foundations are available through application by the city, community development corporations and other community oriented non-profit organizations. Finding grants can be daunting as there are literally thousands of foundations and grant givers; most organizations that rely

upon such funding hire what is termed a "development specialist" to research grants and write proposals. Foundation grants are more commonly available for purposes such as greenspace preservation and parks development than for infrastructure development. It is suggested that the city train a staff member in grants research and writing, and to research and apply for private foundation opportunities as well.

19. Tax Credits

Tax credits can be very powerful funding incentives for private development. There are two basic credits available now that can be applied to redevelopment along Fairfax Boulevard: Low-Income Housing Tax credits and Senior Housing tax credits. The rules for tax credit investment are laid out in the U.S. Internal Revenue Code. Tax credits allow a dollar for dollar reduction in tax (not income) and thus are of use to anyone with a need for tax reduction. Tax credits are often sold (securitized) to investors, allowing non-profits and project owners unable to use them to gain funding for construction and other allowable project costs.

Housing Tax Credits

Low-Income Housing Tax Credits (LIHTC's) can be used for providing housing to households at or below 60% of median income and provide either 4% or 8% credits. There are also 4% senior housing credits available. The median household income by household size is calculated every year by the U.S. Department of Housing and Urban Development. It is not necessary for all units in a building to be affordable to receive the tax credit; the credit applies only to those units that are eligible. To receive the credit, the units must be kept affordable for fifteen years to receive ten years of tax credits.

An information program to familiarize developers and property owners with tax credit opportunities should be undertaken by the city. This could be performed effectively as an addition to the city's website, which is already an excellent resource. Elements would include explanations of the credits, links to credit websites, and downloadable information and application forms. Pro forma templates for calculating tax credits would also be useful for those not familiar with credits.

20. Small Business Investment Companies

Residents of Fairfax expressed an interest in nurturing small, locally-run businesses. Currently, it can cost more to build a new structure than a small business owner or developer may be willing to pay. One of the ways to close this gap and maintain and expand the small business character of Fairfax Boulevard is with the assistance of a Small Business Investment Company. Small Business Investment Companies (SBIC's) are business development venture funds that foster new business creation and business expansion by minimizing funding risk. The federal government will match local funding at a two to one ratio. What this means is that if local investors, banks and others form a SBIC with $5 million in start-up funding (the minimum), the SBA will provide matching funding of up to $10 million. Since the Fairfax Boulevard Master Plan calls not only for infrastructure, but also new businesses to provide the services that are desired by residents, the formation and operation of a Fairfax SBIC could be a means for creating, retaining, and expanding business in the Fairfax Boulevard corridor. SBIC's are allowed to use funds for investment in small business and to act as an advisory resource. This means that the SBIC employees could fund and advise businesses on issues such as effective use of information technology, effective retailing practices, financial management, employee management, efficient use of resources, etc.

It is suggested that the City, the Chamber of Commerce, the Fairfax Boulevard Partnership, and local businesses collaborate in the formation of an SBIC. Because of the Federal program offering two--to-one leveraging of local funding, SBIC's can be more effective in using local funds than business assistance organizations that do not have access to the program. It takes several years to set up the SBIC, and requires the participation of partners experienced in lending and finance. The upside for such people to participate is that the SBA money can be used for low-interest funding, while the original equity can be invested as equity in local businesses and receive market rates of return. This structure is attractive to knowledgeable investors. This type of funding can be especially valuable in attracting new employment to the corridor.

21. Revolving Funds

A Revolving Fund is a low-interest financing pool set up by local lenders acting together to meet Community Reinvestment Act (CRA) obligations. The funds are not grants; borrowers are expected to pay back the loans to finance future loans. The funds can have specific investment criteria regarding the type of lending that will be underwritten. In addition to meeting CRA obligations, revolving funds also generate customer loyalty to participating institutions and serve to keep local money from interest payments and administration costs in local circulation. The City should meet with local lenders to assess the potential for a revolving fund to assist with Fairfax Boulevard corridor redevelopment.

PROMOTE FAIRFAX BOULEVARD

22. Promote the Fairfax Boulevard Master Plan

Continuing to spread the word about this plan and

successful initial projects is vital for implementation. A variety of media should be used: brochures, websites, or television are some common methods. Promote the plan so that it will take on a life of its own and continue to work for Fairfax Boulevard for years to come.

23. Celebrate Fairfax Boulevard

It is important to celebrate Fairfax Boulevard's uniqueness and discover ways to promote its strengths. With a high degree of community input in the charrette process, the message is clear that Fairfax citizens are ready for new life along the Corridor. The Fairfax Boulevard Master Plan should serve to fit all the pieces together to continue to make the Boulevard a first-rate street. The City, Chamber of Commerce, the Fairfax Boulevard Partnership, and other local organizations should promote the high quality of life and benefits of visiting Fairfax Boulevard through various media techniques, both on a regional and national scale.

KEY CAPITAL IMPROVEMENT PROJECTS

24. Create a Parallel Street Network

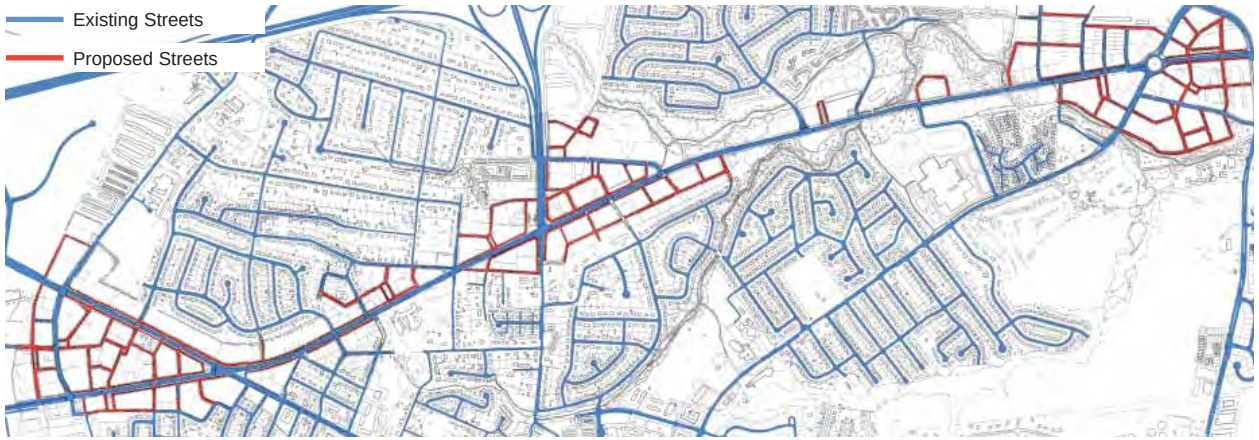
A key recommendation of the Fairfax Boulevard Master Plan is the enhancement of the road network to the north and south of Fairfax Boulevard. In order to allow for an improved distribution of traffic flow, several connections must be made with an expanded network of interconnected streets.

25. Transforming Fairfax Boulevard Into a True Multi-way Boulevard

The transformation of Fairfax Boulevard into a multi-way boulevard should occur in two phases. The first phase will transition the existing boulevard into narrower travel lanes, while still providing the same four-lane configuration. During this phase, it is suggested that the 16' medians (approximate) along each side of the boulevard be expanded to 20', decreasing the travel lane width from 12' to 10'. Frontage roads, where they currently exist along Fairfax Boulevard, will be enhanced and maintained. The second phase will achieve the multi-way boulevard and provide detail to the frontage elements. During this phase, the frontage roads will be transformed into side access lanes. This will improve the area fronting the Boulevard's businesses and retailers by providing attractive parallel parking and sidewalks for pedestrian mobility, without detracting from their current frontage space. Streetscaping will also be finalized during this phase.

26. Construction of Public Parking

Parking on Fairfax Boulevard can be optimized through a combination of management and partnerships. Parking management and the provision of structured parking is necessary for a pedestrian-friendly streetscape, where buildings are located close together without parking lots between them. Many businesses, however, might have difficulty affording the cost of structured parking. One of the projects to be undertaken by the city, therefore, is the provision of shared structured parking. By having the city provide shared public parking, parking requirements can be reduced on individual sites, increasing development potential and providing further incentives for redevelopment. Central public parking also helps to activate the street, by making it necessary for people to use the street to reach their destination. In addition, shared parking and parking management agreements substantially reduce the cost of providing parking for all participating parties. Demand management agreements can be negotiated to determine the end cost to employers for employee spaces. The city should identify sites for shared parking and meet with property owners and businesses to set the terms of use.



New streets (highlighted in red) complete the network of streets, adding multiple options for travel.

		Partners in Implementation							
Timeline	Actions/Action Steps	Council	Planning Commission	Public Works	Planning Department	Economic Development	Partnership	Public	Outside Contracts
Summer/Fall 2007	Adopt the Fairfax Boulevard Master Plan & Codes								
	Facilitate public participation in reviewing the final plan.	x	x		x		x	x	
	Facilitate public participation in reviewing the Form-based Code.	x	x		x		x	x	
	Adopt the Master Plan.	x	x						
	Adopt the Code.	x	x						
Fall 2007	Partner to Form an Action Plan								
	Allocate implementation tasks to city departments, organizations, and individuals.	x	x	x	x	x	x		
Fall/Winter 2007	Streamline Development Procedures & Approvals Process								
	Specify extent of Administrative approvals process, Development Coordinator responsibilites	x	x		x	x			
	Approve funding for Development Coordinator position.	x							
	Advertise Development Coordinator position.				x				
	Hire Development Coordinator.	x			x				
Winter 2007-2008	Train Planning Staff in Form Based Code process				x	x			
Spring 2008	Hold workshops to educate landowners on Form-based Code and streamlined approvals process.				x	x			
Fall 2007	Establish Tax Increment Financing Mechanism								
Fall 2007	Determine Boundaries, one district or several for corridor	x	x		x	x	x	x	

		Partners in Implementation							
Timeline	Actions/Action Steps	Council	Planning Commission	Public Works	Planning Department	Economic Development	Partnership	Public	Outside Contracts
Fall 2007	Identify TIF priorities for use of funds	x	x		x	x	x	x	
Winter 2007-2008	Perform TIF Financial Analysis of proposed district or districts			x	x	x			x
Spring 2008	Determine amount of potentialfunding to be used for project purposes	x							
Spring 2008	Refine boundaries based on Analysis and Funding Priorities	x	x		x				
Spring 2008	Pass TIF District defining boudaries, allowable uses, funding caps	x							
Summer/Fall 2007	Plan to Reconstruct the Boulevard								
Summer/Fall 2007	Amend Roadway Standards	x	x	x	x				
Fall 2007	Work with the Virginia DOT to resolve standards for context sensitive design		x	x	x				
Fall 2007	Identify construction prioity by the 5 sections	x	x		x	x	x	x	
Fall 2007	Issue RFP for Corridor Engineering	x		x					
Winter 2007-Spring 2008	Develop a fully engineered plan of first priority project based on the master plan.			x	x				x
Winter 2007-ongoing	Continue corridor engineering by section priority			x	x				x
Spring 2008-ongoing	Coordinate with Porperty owners on construction timeline and impact mitigation by section			x	x	x	x		x
Spring2008	Develop a funding plan for Capital Improvements	x		x					
Spring2008	Develop a partnering funding plan for unfunded amenities	x			x	x	x		
Spring2008	Apply for State and Federal transportation funding			x					
Spring2008	Research and apply for grants from public and private sources for other unfunded amenities				x	x			

		Parties in Implementation							
Timeline	Actions/Action Steps	Council	Planning Commission	Public Works	Planning Department	Economic Development	Partnership	Public	Outside Contracts
Spring/Summer 2008	Approve Boulevard Reconstruction and Funding Strategy and Prioritize by Nodes and Connectors (5 Sections)	x	x	x	x				
	Set aside capital improvement money for Boulevard reconstruction.	x							
Fall 2008 to Summer 2010	Construct the Boulevard (recommendations in parentheses)								
Fall 2008	Begin Construction Section 1 (NorthFax)			x					x
Spring 2009	Begin Construction Section 2 (Western Connector)			x					x
Summer 2009	Begin Construction Section 3 (Kamp Washington)			x					x
Fall 2009	Begin Construction Section 4 (Fairfax Circle)			x					x
Spring/Summer 2010	Begin Construction Section 5 Eastern Connector)			x					x
	Establish a Parking Strategy								
Fall 2007	Modify zoning regulations to allow for shared parking.	x	x		x				
Fall/Winter 2007	Locate potential sites for parking garages within each node.	x	x		x	x	x	x	
Winter 2007-2008	Draft Parking Plan for Fairfax Boulevard, with involvement from key stakeholders.	x	x		x	x	x	x	
Winter 2007-2008	Identify timimg for parking construction in nodes--i.e. before or during new project construction				x				
Spring 2008	Develop public-private funding strategy for construction of parking	x			x	x	x		
Spring 2008	Adopt Parking Plan.	x	x						
Summer 2008	Place public portion of funding plan into appropriate budgets --TIF, CIP	x							

		Parties in Implementation							
Timeline	Actions/Action Steps	Council	Planning Commission	Public Works	Planning Department	Economic Development	Partnership	Public	Outside Contracts
	Plan and Create Street Networks at Nodes								
Winter 2007-2008	Define future ROWs and ownership (public or private) in nodes	x	x	x	x				
(after passage of Plan)	Identify resposibility for construction and maintenance (public or private)	x	x		x	x	x		
	Identify conditions under which construction of new ROWs is triggered	x	x	x	x				
	Coordinate Street network funding with Pilot Project Program	x	x	x	x				
	Coordinate Street network funding with proposed TIF	x	x	x	x				
As Appropriate based on Need	Participate in Construction of networks	x		x	x	x	x		
	Create a Parcel Assembly Mechanism								
Winter 2007-2008	Determine organization structure for land bank	x	x		x	x	x		
Winter 2007-2008	Determine priorities for acquisition: large land assembly, single parcel acquisition to complete assembly by others, open space acquisition, future ROW acquisition, land for parking, etc.	x	x	x	x	x	x		
Winter 2007-2008	Determine funding structure for land bank to allow broadest possible sources: TIF, City, grants, private donations, foundation support etc.	x	x		x	x	x		
Spring 2008	Establish Land Bank	x				x	x		
	Establish Pilot Project Program								
Fall 2007	Create goals and priorities checklist for judging Pilot projects	x	x	x	x	x	x	x	

		Partners in Implementation							
Timeline	Actions/Action Steps	Council	Planning Commission	Public Works	Planning Department	Economic Development	Partnership	Public	Outside Contracts
Winter 2007-2008	Issue Requests for qualifiactions from interested owners/developers: establish financial	x	x		x				
Winter 2007/2008	Invite qualified developers to submit proposals to be selected as a pilot project.	x	x		x				
Spring 2008	Invite public input on proposals	x	x		x		x	x	
Summer 2008	Provide staff planning assistance for selected pilot project to meet public goals	x	x	x	x				
As Appropriate based on Need	Partner as appropriate with funding by Partnership , TIF district, other to enable pilot project	x					x		
	Redevelop Underutilized Parcels								
Ongoing	Identify parcels with low value low FAR land uses				x				
Ongoing	Use the GIS inventory of land uses to market underutilized property to potential investors.					x			
	Promote New Business								
Ongoing	Encourage establishment of a Small Business Investment Company.	x				x	x		
Ongoing	Partner with the many small business programs at George Mason University to place new business on Fairfax Boulevard	x				x	x		
Ongoing	Use financial leverage from TIF, Econ Dev't Dept for new development or renovation that creates suitable space for new business startups	x				x	x		
	Maintain GIS Database for Plan Implementation								
Continuous	Keep a detailed list of businesses and services that should be targeted to locate on Fairfax Boulevard.				x				
Yearly	Use GIS to create listing of key properties that should be purchased for open space.				x				

		Partners in Implementation							
Timeline	Actions/Action Steps	Council	Planning Commission	Public Works	Planning Department	Economic Development	Partnership	Public	Outside Contracts
Winter 2008	Add economic daa to inventory of land uses as in Appendix "Using GIS to Plan for Economic Development"				x				
Continuous	Update GIS database with physical conditions of individual properties as development occurs.				x				
As needed	Publish change periodically on Fairfax Boulevard website				x	x			
	Promote the Boulevard								
Continuous	Maintain a website for Fairfax Boulevard and distribute brochures promoting the boulevard.					x			
	Community Involvement								

draft form-based code A

The Fairfax Boulevard District Code (also referred to herein as "the Code") is a legal document that regulates land-development by setting careful and coherent controls on building form—while employing more flexible parameters relative to building use. The District Code uses simple and clear graphic prescriptions and parameters for height, siting, and building elements to address the necessities for defining good public space; and broad parameters for uses within the buildings.

The standards provided in the Code were built on the foundation established in the March 2007 design charrette and the resulting Fairfax Boulevard Master Plan. The Code reflects the principles of traditional place-making and urban design. The expectation is that these standards will provide the foundation for long-term redevelopment along the corridor, and accommodate change over time. The District Code recognizes that the local economy may support and/or demand different types of uses at different times, but with a sound development and building pattern—much like the historic Old Town Fairfax district—the building life-cycle will be sustainable.

The proposed Fairfax Boulevard District is generally defined as the approximately 3.5-mile Fairfax Boulevard corridor between Fairfax Circle on the east and Jermantown Road on the west. The District is composed of three centers: Fairfax Circle, Northfax, and Kamp Washington, and the portions of Fairfax Boulevard—the East and West Connectors—in between. For specific boundaries, see the regulating plans and consult the Department of Community Development and Planning.

GUIDING PRINCIPLES

With proper urban form, a greater integration of building uses is natural and comfortable.

- Buildings are aligned and close to the street. Buildings form the space of the street.
- The street is a coherent space, with consistent building forms on both sides. This agreement of building form across the street-space contributes to a clear public space and street identity.
- Buildings oversee the street-space with active fronts. This overview of the street-space contributes to vital and safe public space.
- Property lines are physically defined by buildings, walls, or fences. Land should be clearly public or private—in public view and under surveillance or private and protected.
- Buildings are designed for towns and cities. Rather than being simply pushed closer together, as in many suburban developments, buildings must be designed for the urban situation within towns and cities. Views are directed to the street-space and interior gardens/courtyards, not into neighboring lots.
- Vehicle storage/parking, (not including on-street parking), garbage and mechanical equipment are kept away from the street-space.

INTENT

The Fairfax Boulevard District Code is designed to foster infill redevelopment in a sustainable mixed-use pattern as part of a vibrant, diverse City. These standards are intended to promote traditional town form and a healthy mix of uses in a series of Centers—Fairfax Circle, Northfax, and Kamp Washington—along the Boulevard. The Centers will have wide sidewalks and canopy shade trees at the street level, allowing for shopfronts, sidewalk cafes, and other commercial uses that are overlooked by upper story residences and offices. Creating a clear sense of identity for each Center with a clear physical connection to the surrounding neighborhoods is very important to the future of the City.

Redevelopment within the Fairfax Boulevard District shall be regulated as set forth below in order to achieve the vision set forth during the March 2007 Public Participation Charrette and as further defined in the (proposed) Fairfax Boulevard Master Plan for the corridor. The standards provide the specific means to guide the development and redevelopment of all properties in the District.

CONFLICTING PROVISIONS

Wherever there appears to be a conflict between the Fairfax Boulevard District Code and other sections of the City of Fairfax Zoning Ordinance, the requirements specifically set forth in the District Code shall prevail. For development standards not covered by the Fairfax Boulevard District Code, the other applicable sections in the City of Fairfax Zoning Ordinance shall be used as the requirement. Similarly, all development must comply with all relative Federal, State or local regulations and ordinances regarding health and safety.

HOW TO USE THIS CODE

In order to understand what the standards allows on property within the Fairfax Boulevard District there are three basic steps. The standards will explain where the building will sit on the site, the parameters for its three-dimensional form, the range of allowable uses, and the palette of materials that will cover it. (For exact dimensions specific to your property, consult with the City Architect.)

Initial Steps

1. Look at the regulating plan. Find the property in question. Note the required building line (RBL) and the parking setback line. Note the color of the fronting street-space—this determines the applicable building form standard. (See the key on the regulating plan.)
2. Find the appropriate building form standard (BFS) pages. The BFS will tell you the basic parameters for building on this site in terms of height, siting, elements, and use.
3. Look at the Architectural Standards section to understand the parameters for the external building materials and architectural configurations.

ADDITIONAL INFORMATION

Additional information regarding the street-space is located in Sec. 4.0 Streetspace Standards and Sec. 5.0 Street Sections. These sections will show the general parameters for the character of the street-space including vehicular traffic lane widths, curb radii, sidewalk and tree planting area dimensions, and on-street parking configurations.

COMPONENTS OF THE CODE

The primary components of the District Code are: the regulating plans, the building form standards, the Streetspace Standards, Street Sections, Parking Standards, Architectural Standards, Administration, and Definitions.

The Regulating Plan

Building on the public participation charrette and Fairfax Boulevard Master Plan, a regulating plan has been produced for the Fairfax Boulevard District. The regulating plan provides standards for the disposition of each property or lot and illustrates how each relates to the adjacent properties and street-space. It is the coding key for the Fairfax Boulevard District that provides specific information on permitted development for each parcel within the district.

The regulating plan identifies the building form standards for all building sites within the Fairfax Boulevard District. It shows how each lot relates to public spaces (street-space, civic greens, pedestrian pathways, etc.) and the surrounding neighborhoods. There may be additional recommendations/regulations for special locations as identified on the regulating plan. A fully scalable regulating plan is available for review at the Department of Community Development and Planning.

Building Form Standards

The intent of the building form standards is to shape the public space—its specific physical and functional character—for the Fairfax Boulevard District through controls on building form in order to frame the street-space. They aim for the minimum level of control necessary to meet that goal. The building form standards establish basic parameters governing building form, including the envelope for building placement (in three dimensions) and certain permitted/required building elements, such as shopfronts, balconies, and street walls. The building form standards establish both the boundaries within which things may be done and specific things that must be done. The applicable standard for a building is determined by its street frontage, as identified on the regulating plan. This produces a coherent street-space and allows the building greater latitude behind its street facade.

The Streetspace Standards

The Streetspace Standards are intended to define coherent street-space and to assist owners and builders with understanding the relationship between the public space of the Fairfax Boulevard District and their own building/lot. These standards set the parameters for the placement of street trees and other amenities or appurtenances (e.g., benches, signs, street lights, etc.) on or near each building site. They also describe the general physical characteristics of a street-space to establish an environment that encourages and facilitates pedestrian activity.

The Street Sections

The Street Sections illustrate typical configurations for streets within the Fairfax Boulevard District. The Sections address vehicular traffic lane widths, curb radii, sidewalk and tree planting area dimensions, and on-street parking configurations. They also provide a comparative pedestrian crossing distance as a gauge of pedestrian comfort. (The City will configure and adjust these as necessary for specific conditions.)

Streets must balance the needs of all forms of traffic—auto, transit, bicycle and pedestrian—to maximize mobility and convenience for all the citizens of the City of Fairfax and all users of the Fairfax Boulevard District. While all streets will appropriately balance pedestrian and automobile needs, their character will vary with their location. Some streets will carry a large volume of traffic and provide a more active and intense urban pedestrian experience while others will provide a less active and more intimately scaled street-space.

Parking Standards

The goal of the Parking Standards is to promote a "park once" environment that will enable people to conveniently park and access a variety of commercial, residential, and civic enterprises in pedestrian-friendly environments by encouraging shared park-

ing and reducing diffuse, inefficient, single-purpose reserved parking.

Architectural Standards

The goal of the Architectural Standards is to promote a coherent and pleasing architectural character that is complementary to the best local traditions. The standards govern a building's architectural elements regardless of its building form standard and set the parameters for allowable materials, configurations, and construction techniques. Equivalent or better products than those specified are always encouraged and may be submitted to the City Architect for approval.

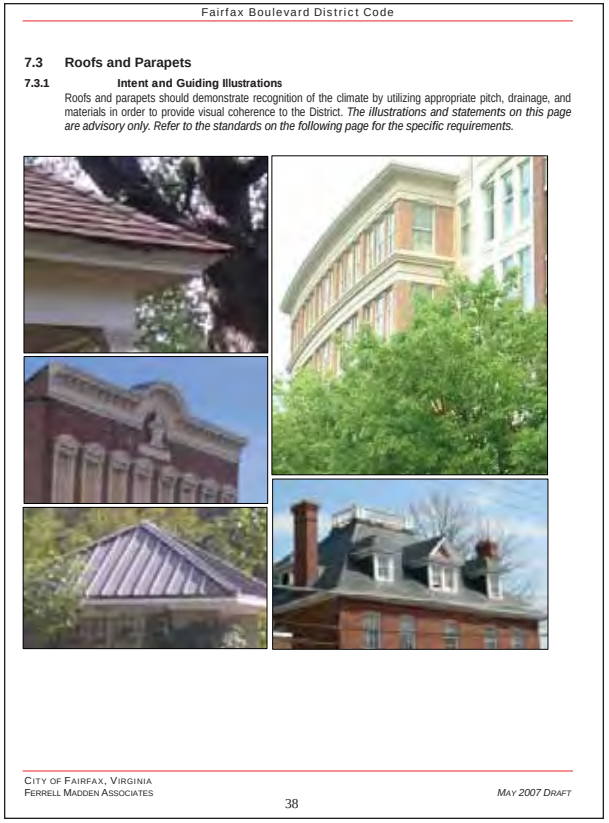
Administration

The Administration section establishes any unique processes and procedures that may be necessary to implement this Code, either beyond or in replacement of those established in the pre-existing City of Fairfax Zoning Ordinance.

Definitions

Some words used in this Code are used in a more specific way than that found in common usage, and have been defined herein. Wherever a word is in small capital format, consult the Definitions (Sec. 9.0) for the specific meaning. Words used in the Fairfax Boulevard District Code, but not defined by the Fairfax Boulevard District Code, which are defined in the City of Fairfax Zoning Ordinance, shall have the meanings set forth therein.

A complete version of the Draft Form-Based Code is available at the Department of Community Development and Planning.



using GIS for economic development B

Geographic Information Systems (GIS) is currently used in many municipalities to note and track infrastructure, population characteristics, planning and zoning changes, vacant land and physical characteristics needed for engineering and planning purposes. These uses reflect the original development of GIS as a land-planning tool to replace time-consuming overlays or sieve mapping.

GIS is rarely used for economic analysis of real estate or market trends, though smart cities are waking up to the power that GIS can provide in analyzing this type of data. Cities that desire a redeveloped downtown or a more vital urban economy, should collect information on metrics that can help them formulate strategies for reaching their desired goals. Metrics such as vacant land inventory; square feet of buildings and intensity of development; square feet of commercial, residential and other uses with land and improvement values; units of residential (not the same as square feet); retail sales by category; office uses by category; can help a city refine its economic development strategy. The point here is that real estate is valued and used according to its location and since GIS is created specifically to show locational data it has the potential to be among the most powerful tools in a city's attempt to understand its own market opportunities and potential for development.

When a city does not include valuable economic data in its GIS system, tedious, expensive work is necessary. As an example, retail sales need to be correlated with square feet of retail space to yield a meaningful analysis of local retail performance. If the data is not in the database, someone has to go out and collect it by walking through every retail establishment in town. The same task would take only a few minutes with a more complete GIS database.

Since cities usually have the data necessary or the mechanisms in place to collect it, they should include it in their databases so that they can more efficiently use their time and resources to achieving community goals and create vital downtowns and neighborhoods.

WHAT ARE THE BASIC TASKS OF GIS FOR ECONOMIC DEVELOPMENT?

GIS can offer the ability to spot trends, economic performance, program effectiveness, building obsolescence and a host of factors important in determining when, how, where to change policy or offer assistance through public efforts to accelerate positive change. It can also highlight negative trends and allow the city to act in a more pro-active or pre-emptive way to forestall economic deterioration. And it can target the places where change or opportunity exists exactly, lot by lot.

Typical tasks performed by GIS:

- Demographic Analysis
- Housing Analysis
- Retail Sector Health
- Office Sector Health
- Industrial Sector Health
- Tracking Under-use and Redevelopment Potential
- Building Obsolescence
- Impact of Redevelopment
- Impact of Policy, Planning Changes
- Tracking Economic Indicators
- Economic impact of zoning/land-uses on adjacent zones/uses

HOW DO YOU GET THE INFORMATION?

Most cities already have the data they need, it is just dispersed between various departments. An effort should be made to combine and assimilate data from the following offices to generate a more effective database.

Planning Department

The planning department has a good start on the data in its own office:

- Zoning boundaries
- Tax lot zoning
- Current Land Use
- Any overlays or long-range plans applying to the tax lot
- Special taxing, incentive or other districts applying to the tax lot
- Results of approvals that fit into data categories such as changes in zoning, numeric enumeration of the building program approved (units, square feet of retail, etc.), conditional use changes, etc.
- Building footprints - These can be determined from aerial photography and can gauge site coverage and building floors when correlated with assessor's data on total building square feet.

Business Licensing

Information about business licenses is useful to understand what types and how many businesses are in town, as well as indications of business health. Useful information to be collected includes:

- Leasing information – square feet, ground floor or upper floor lease, lease rate
- Categorize business to allow meaningful differentiation between common types such as those seen in consumer spending reports
- Sales Information – upon renewal of business license get annual gross sales to correlate with square feet leased

County Assessor

This office typically has data on land and improvement market value, building square feet, lot square

feet, land use, public or private ownership (the actual names of private owners are not important for the purposes of collating economic data), owner location (which is useful to know how many absentee landlords there are).

Recorder's Office
Has data on property: age of structure (year built), last property sale date and amount paid.

Permitting Office
The building and permitting office has data on numbers of units created or demolished by address (residential) or square feet created or demolished (commercial), and last time of building renovation and the extent or cost of renovation.

Post Office
Correlating postal addresses to tax parcels allow the estimation of the number of units on any lot.

Utility Records
Like the postal information, address matching of residential units to apartment buildings from utility records may allow an estimate of number of residential units.

On-going Data Collection by the City
It is useful to measure progress and track issues by conducting an annual survey of building owners that covers:

- Vacancy
- Average rental rate per square foot
- Expenses per square foot (in many places this is done by BOMA)
- In the case of housing whether the units are dedicated to a particular demographic group such as seniors students, low-income etc.

Real Estate Multiple Listing Information
The city should have access to this data that shows the sales pricing for real estate and allows trending over multiple years to understand where change in markets is taking place.

Assemble the Information
The tax lot is the most basic unit of analysis. All information, whether held in a single or multiple database layers should have an id number (usually the tax lot id or pin number) that can be used to identify the tax lot and correlate the different characteristics for each tax lot.

WHAT CAN BE DONE WITH THE INFORMATION?
Once the data is assembled in a GIS database, it becomes a powerful tool for:
Redevelopment
The GIS system can highlight area of low value that are ripe for redevelopment when property values are changing by highlighting the differences between existing assessed values and new project values in areas that are similar or adjoining.

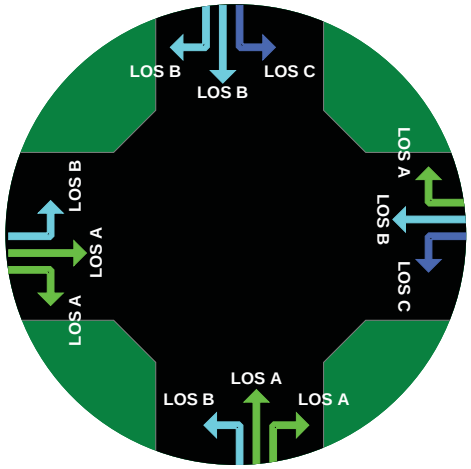
Downtown
GIS used for economic development can correlate sales per square foot to specific properties and compare it to other areas, indicating the need for improvements or charting positive change. This is information retailers are very interested in and can use to help their decision making process. It can also show the relative vitality of the office space market and alert investors to opportunities for the renovation of office space in older buildings. Moreover, lease rates can be charted to gauge the feasibility of new construction.

Neighborhood Planning
GIS that is used to chart sales values can alert the city to downward trends in property values, and can also be used to alert appraisers and lenders to upward changes that can change the basis for appraisal and thus assist in obtaining financing for rehabilitation. In this way, the use of GIS can help revitalize areas without resorting to wholesale gentrification.

Infill Development
Infill development can be assisted by GIS through the identification of properties and city follow-up to the property owners to alert them of the opportunity. Many property owners may not have the resources to understand that they have properties that with potential development value and GIS can help city efforts while offering owners valuable opportunities.

Employment Trends and Building Type and Age
GIS can reveal building use by age. When this analysis was performed for Kirkland, Washington it was discovered that older building were not being used by the industries targeted by the zoning. In other words, the zoning may dictate a building type and use, but if the businesses don't want it they don't use it—and the city didn't know. The use of GIS can help the city adjust its requirements so that they fit the current market.

Employment Trends and Zoning Obsolescence
Sometimes zoning dictates places that people just aren't interested in anymore because the economics no longer work. GIS can reveal these areas through a charting of declining lease rates and changing uses. By keeping up to date, the GIS system can alert the city to situations that need attention redirecting the zoning to more productive uses.



detailed synchro and sidra analysis C

SYNCHRO ANALYSIS

Fairfax Blvd. and Main Street Level of Service

May 8, 2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	3433	3532	0	3433	3532	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.065			0.172		
Satd. Flow (perm)	3433	3532	0	3433	3532	0	121	3539	1583	320	3539	1583
Satd. Flow (RTOR)												69
Volume (vph)	416	1012	12	1060	1124	12	36	744	548	60	980	720
Lane Group Flow (vph)	452	1113	0	1152	1235	0	39	809	596	65	1065	783
Turn Type	Prot			Prot			pm+pt		pt+ov	pm+pt		pt+ov
Protected Phases	5	2		1	6		3	8	8 1	7	4	4 5
Permitted Phases							8			4		
Total Split (s)	45.0	45.0	0.0	77.0	77.0	0.0	15.0	83.0	160.0	15.0	83.0	128.0
Act Effct Green (s)	41.0	41.0		74.6	74.6		88.4	79.0	153.6	89.2	81.6	126.6
Actuated g/C Ratio	0.19	0.19		0.34	0.34		0.40	0.36	0.70	0.41	0.37	0.58
v/c Ratio	0.71	1.69		0.99	1.03		0.33	0.64	0.54	0.34	0.81	0.83
Control Delay	79.9	358.8		91.9	100.4		69.1	54.3	8.3	51.7	72.3	47.8
Queue Delay	0.0	89.1		103.5	103.7		0.0	6.9	0.3	0.5	0.0	0.0
Total Delay	79.9	447.9		195.3	204.0		69.1	61.1	8.6	52.2	72.3	47.8
LOS	E	F		F	F		E	E	A	D	E	D
Approach Delay		341.6			199.8			39.7			61.6	
Approach LOS		F			F			D			E	
Queue Length 50th (ft)	288	~1232		836	~994		39	617	167	50	752	533
Queue Length 95th (ft)	369	#1375		#1032	#1153		62	457	234	m60	741	659
Internal Link Dist (ft)		1392			296			342			1046	
Turn Bay Length (ft)	340						100			200		400
Base Capacity (vph)	640	658		1164	1198		132	1271	1105	204	1313	940
Starvation Cap Reductn	0	0		243	230		0	410	99	0	0	0
Spillback Cap Reductn	0	69		0	0		0	0	132	27	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.71	1.89		1.25	1.28		0.30	0.94	0.61	0.37	0.81	0.83

Intersection Summary

Cycle Length: 220
Actuated Cycle Length: 220
Offset: 45 (20%), Referenced to phase 1:WBL and 6:WBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.69
Intersection Signal Delay: 162.4 Intersection LOS: F
Intersection Capacity Utilization 104.9% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Fairfax Boulevard and Chain Bridge Road Level of Service

May 8, 2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	3433	5040	0	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5040	0	1770	5085	1583	1770	3539	1583	1770	3539	1583
Satd. Flow (RTOR)		6				310			64			99
Volume (vph)	388	1523	92	134	1617	354	125	1032	172	240	1127	250
Lane Group Flow (vph)	422	1755	0	146	1758	385	136	1122	187	261	1225	272
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2			4			8
Total Split (s)	25.0	118.0	0.0	27.0	120.0	120.0	20.0	47.0	47.0	28.0	55.0	55.0
Act Effct Green (s)	21.0	115.3		21.7	116.0	116.0	16.0	43.0	43.0	24.0	51.0	51.0
Actuated g/C Ratio	0.10	0.52		0.10	0.53	0.53	0.07	0.20	0.20	0.11	0.23	0.23
v/c Ratio	1.29	0.66		0.83	0.66	0.39	1.05	1.62	0.52	1.35	1.49	0.61
Control Delay	220.4	39.8		130.7	33.5	7.6	184.5	334.1	56.9	258.7	269.8	40.2
Queue Delay	0.0	0.0		0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	220.4	39.8		130.7	33.7	7.6	184.5	334.1	56.9	258.7	269.8	40.2
LOS	F	D		F	C	A	F	F	E	F	F	D
Approach Delay		74.8			35.5			284.2			232.7	
Approach LOS		E			D			F			F	
Queue Length 50th (ft)	~399	682		204	525	76	~215	~1225	163	~482	~1262	113
Queue Length 95th (ft)	#524	728		m258	475	m107	#386	#1366	259	m#696	#1404	m210
Internal Link Dist (ft)		798			1037			554			982	
Turn Bay Length (ft)	600			200		350	200		225	300		
Base Capacity (vph)	328	2644		185	2681	981	129	692	361	193	820	443
Starvation Cap Reductn	0	0		0	311	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.29	0.66		0.79	0.74	0.39	1.05	1.62	0.52	1.35	1.49	0.61

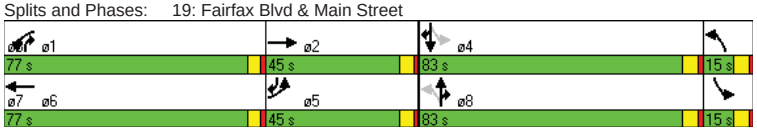
Intersection Summary

Cycle Length: 220
Actuated Cycle Length: 220
Offset: 162 (74%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.62
Intersection Signal Delay: 138.7 Intersection LOS: F
Intersection Capacity Utilization 97.5% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Fairfax Blvd. and Main Street Level of Service

May 8, 2007

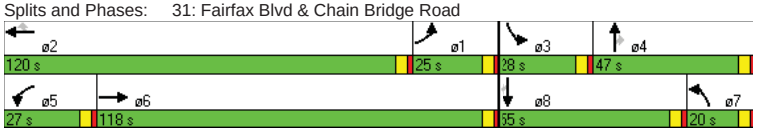
Splits and Phases: 19: Fairfax Blvd & Main Street



Fairfax Boulevard and Chain Bridge Road Level of Service

May 8, 2007

Splits and Phases: 31: Fairfax Blvd & Chain Bridge Road



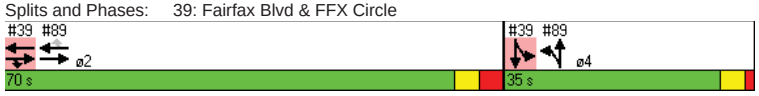
Fairfax Circle - Western Intersection Level of Service

May 8, 2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	3539	1583	0	3539	0	0	0	0	0	3529	1583
Flt Permitted											0.997	
Satd. Flow (perm)	0	3539	1583	0	3539	0	0	0	0	0	3529	1583
Satd. Flow (RTOR)												364
Volume (vph)	0	1571	406	0	1739	0	0	0	0	50	820	750
Lane Group Flow (vph)	0	1708	441	0	1890	0	0	0	0	0	945	815
Turn Type			Prot							Split		Free
Protected Phases		2	2		2					4	4	
Permitted Phases												Free
Total Split (s)	0.0	70.0	70.0	0.0	70.0	0.0	0.0	0.0	0.0	35.0	35.0	0.0
Act Effct Green (s)		66.0	66.0		66.0						31.0	105.0
Actuated g/C Ratio		0.63	0.63		0.63						0.30	1.00
v/c Ratio		0.77	0.44		0.85						0.91	0.51
Control Delay		17.0	11.8		4.7						48.1	1.2
Queue Delay		0.0	0.0		0.0						0.0	0.0
Total Delay		17.0	11.8		4.7						48.1	1.2
LOS		B	B		A						D	A
Approach Delay		15.9			4.7						26.4	
Approach LOS		B			A						C	
Queue Length 50th (ft)		398	140		73						316	0
Queue Length 95th (ft)		492	209		65						363	0
Internal Link Dist (ft)		1502			176			45			192	
Turn Bay Length (ft)												
Base Capacity (vph)		2225	995		2225						1042	1583
Starvation Cap Reductn		0	0		1						0	0
Spillback Cap Reductn		0	0		0						0	0
Storage Cap Reductn		0	0		0						0	0
Reduced v/c Ratio		0.77	0.44		0.85						0.91	0.51

Intersection Summary	
Cycle Length: 105	
Actuated Cycle Length: 105	
Offset: 50 (48%), Referenced to phase 2:EBWB, Start of 1st Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 15.4	Intersection LOS: B
Intersection Capacity Utilization 78.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 39: Fairfax Blvd & FFX Circle



Fairfax Circle - Eastern Intersection Level of Service

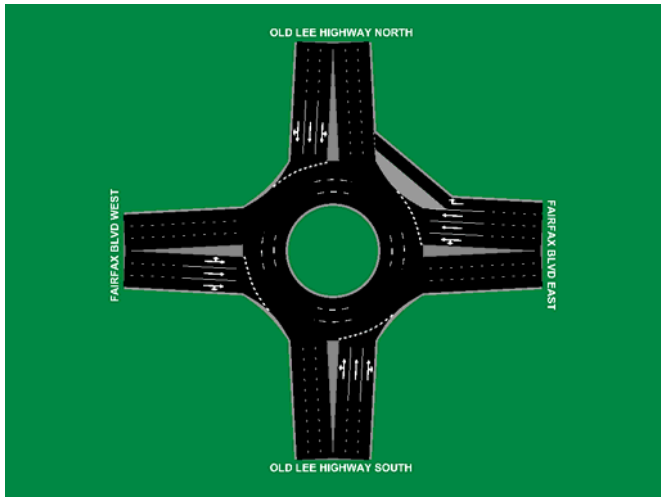
May 8, 2007

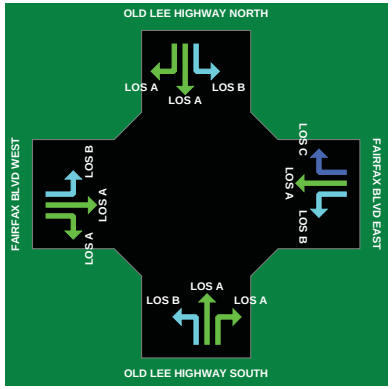
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	0	3539	0	0	3539	1583	0	3536	1583	0	0	0
Flt Permitted								0.999				
Satd. Flow (perm)	0	3539	0	0	3539	1583	0	3536	1583	0	0	0
Satd. Flow (RTOR)									48			
Volume (vph)	0	1621	0	0	1720	80	19	729	50	0	0	0
Lane Group Flow (vph)	0	1762	0	0	1870	87	0	813	54	0	0	0
Turn Type						Perm	Split		Free			
Protected Phases		2			2		4	4				
Permitted Phases						2			Free			
Total Split (s)	0.0	70.0	0.0	0.0	70.0	70.0	35.0	35.0	0.0	0.0	0.0	0.0
Act Effct Green (s)		66.0			66.0	66.0		31.0	105.0			
Actuated g/C Ratio		0.63			0.63	0.63		0.30	1.00			
v/c Ratio		0.79			0.84	0.09		0.78	0.03			
Control Delay		4.3			15.3	7.1		39.2	0.0			
Queue Delay		0.0			0.1	0.0		0.0	0.0			
Total Delay		4.3			15.4	7.1		39.2	0.0			
LOS		A			B	A		D	A			
Approach Delay		4.3			15.0			36.7				
Approach LOS		A			B			D				
Queue Length 50th (ft)		51			542	36		256	0			
Queue Length 95th (ft)		52			m441	m36		m298	m0			
Internal Link Dist (ft)		176			1252			171			36	
Turn Bay Length (ft)						200						
Base Capacity (vph)		2225			2225	995		1044	1583			
Starvation Cap Reductn		1			0	0		0	0			
Spillback Cap Reductn		0			13	0		0	0			
Storage Cap Reductn		0			0	0		0	0			
Reduced v/c Ratio		0.79			0.85	0.09		0.78	0.03			

Intersection Summary	
Cycle Length: 105	
Actuated Cycle Length: 105	
Offset: 50 (48%), Referenced to phase 2:EBWB, Start of 1st Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 15.0	Intersection LOS: B
Intersection Capacity Utilization 78.9%	ICU Level of Service D
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

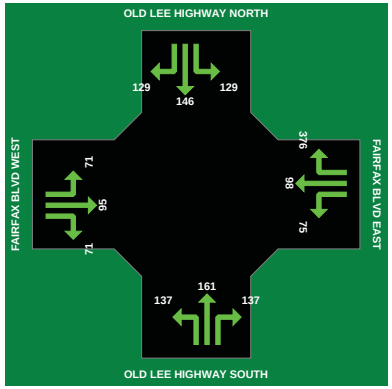
Splits and Phases: 89: Fairfax Blvd & FFX Circle

Fairfax Circle
(Fairfax Boulevard/Old Lee Highway)





Levels-of-service



95th Percentile Queues

Movement Summary

FAIRFAX CIRCLE PM PEAK

Subtitle

Roundabout

Vehicle Movements

Mov No	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
OLD LEE HIGHWAY SOUTH										
32	L	60	1.7	0.625	16.4	LOS B	137	0.80	0.97	28.9
31	T	1720	2.0	0.625	7.7	LOS A	161	0.81	0.75	31.9
33	R	20	4.8	0.618	8.4	LOS A	137	0.80	0.81	31.7
Approach		**1801**	**2.0**	**0.625**	**8.0**	**LOS A**	**161**	**0.81**	**0.76**	**31.8**
FAIRFAX BLVD EAST										
22	L	50	2.0	0.446	16.6	LOS B	75	0.82	0.95	28.8
21	T	820	2.0	0.445	8.2	LOS A	98	0.86	0.76	31.7
23	R	750	2.0	0.917	20.8	LOS C	376	1.00	1.39	25.8
Approach		**1620**	**2.0**	**0.917**	**14.3**	**LOS B**	**376**	**0.93**	**1.06**	**28.6**
OLD LEE HIGHWAY NORTH										
42	L	300	2.0	0.634	15.2	LOS B	129	0.76	0.89	29.0
41	T	1570	2.0	0.634	6.4	LOS A	146	0.76	0.61	32.2
43	R	100	2.0	0.633	7.2	LOS A	129	0.76	0.69	31.9
Approach		**1970**	**2.0**	**0.634**	**7.8**	**LOS A**	**146**	**0.76**	**0.66**	**31.6**
FAIRFAX BLVD WEST										
12	L	19	5.0	0.426	16.9	LOS B	71	0.83	0.96	28.8
11	T	729	2.1	0.423	8.5	LOS A	95	0.88	0.78	31.6
13	R	50	2.0	0.424	8.8	LOS A	71	0.83	0.81	31.6
Approach		**799**	**2.1**	**0.423**	**8.7**	**LOS A**	**95**	**0.87**	**0.78**	**31.5**
All Vehicles		**6190**	**2.0**	**0.917**	**9.7**	**LOS A**	**376**	**0.83**	**0.81**	**30.8**

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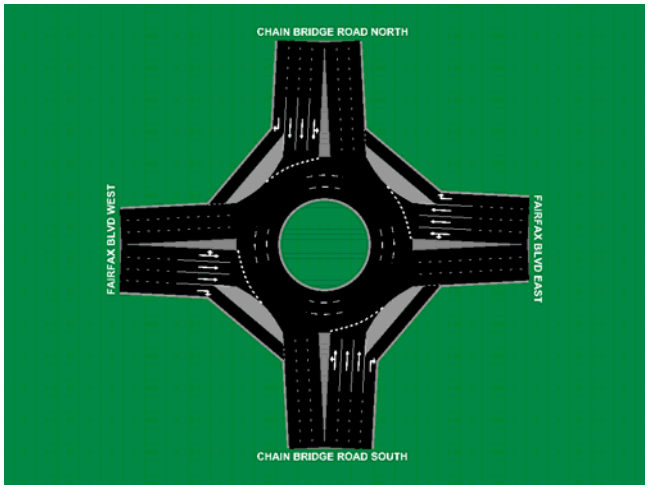
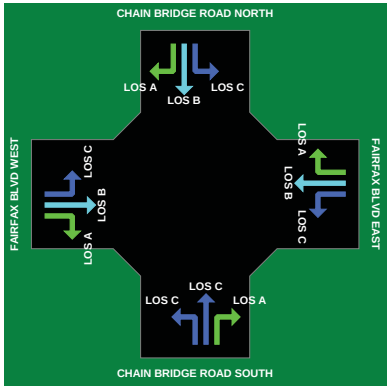
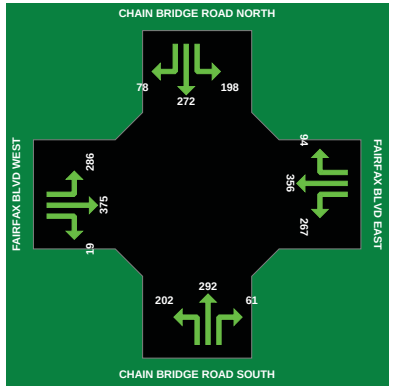
Fairfax Boulevard/Chain Bridge Road





Levels-of-service



95th Percentile Queues

Movement Summary

ROUTE 50 (FAIRFAX BLVD)/ROUTE 123(CHAIN BRIDGE RD) PM PEAK

TWO LANE RBT

Roundabout

Vehicle Movements

Mov No	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
CHAIN BRIDGE ROAD SOUTH										
32	L	125	2.4	1.212	128.1	LOS F	1089	1.00	2.57	9.8
31	T	1032	2.0	1.211	117.7	LOS F	1496	1.00	2.81	9.8
33	R	172	1.7	1.211	117.6	LOS F	1496	1.00	3.05	9.7
Approach		**1330**	**2.0**	**1.212**	**118.7**	**LOS F**	**1496**	**1.00**	**2.82**	**9.8**
FAIRFAX BLVD EAST										
22	L	134	2.2	1.558	273.8	LOS F	2860	1.00	4.46	5.3
21	T	1617	2.0	1.556	264.3	LOS F	3880	1.00	4.87	5.0
23	R	354	2.0	1.559	264.5	LOS F	3880	1.00	5.32	5.0
Approach		**2105**	**2.0**	**1.557**	**265.0**	**LOS F**	**3880**	**1.00**	**4.92**	**5.0**
CHAIN BRIDGE ROAD NORTH										
42	L	240	2.1	1.206	119.3	LOS F	1255	1.00	2.82	10.4
41	T	1127	2.0	1.207	109.3	LOS F	1655	1.00	3.06	10.3
43	R	250	2.0	1.208	109.5	LOS F	1655	1.00	3.25	10.2
Approach		**1617**	**2.0**	**1.207**	**110.8**	**LOS F**	**1655**	**1.00**	**3.05**	**10.3**
FAIRFAX BLVD WEST										
12	L	388	2.1	1.492	242.9	LOS F	2520	1.00	4.23	5.9
11	T	1523	2.0	1.492	233.2	LOS F	3408	1.00	4.76	5.6
13	R	92	2.2	1.484	233.9	LOS F	3408	1.00	5.17	5.5
Approach		**2003**	**2.0**	**1.491**	**235.1**	**LOS F**	**3408**	**1.00**	**4.68**	**5.6**
All Vehicles		**7055**	**2.0**	**1.559**	**193.6**	**LOS F**	**3880**	**1.00**	**4.03**	**6.6**

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Movement Summary

ROUTE 50 (FAIRFAX BLVD)/ROUTE 123(CHAIN BRIDGE RD) PM PEAK

TWO LANE RBT with two right turn lanes

Roundabout

Vehicle Movements

Mov No	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
CHAIN BRIDGE ROAD SOUTH										
32	L	125	2.4	1.518	268.7	LOS F	1780	1.00	3.28	5.4
31	T	1032	2.0	1.527	258.4	LOS F	2558	1.00	3.70	5.1
33	R	172	1.7	1.522	258.4	LOS F	2558	1.00	3.98	5.1
Approach		**1330**	**2.0**	**1.527**	**259.4**	**LOS F**	**2558**	**1.00**	**3.70**	**5.1**
FAIRFAX BLVD EAST										
22	L	134	2.2	1.186	110.8	LOS F	1314	1.00	2.81	10.9
21	T	1617	2.0	1.182	100.7	LOS F	1666	1.00	3.01	11.0
23	R	354	2.0	0.392	8.3	LOS A	83	0.81	0.71	31.3
Approach		**2105**	**2.0**	**1.182**	**85.8**	**LOS F**	**1666**	**0.97**	**2.61**	**12.3**
CHAIN BRIDGE ROAD NORTH										
42	L	240	2.1	1.611	303.1	LOS F	2320	1.00	3.84	4.8
41	T	1127	2.0	1.615	293.2	LOS F	3273	1.00	4.35	4.6
43	R	250	2.0	1.613	293.5	LOS F	3273	1.00	4.65	4.5
Approach		**1617**	**2.0**	**1.615**	**294.7**	**LOS F**	**3273**	**1.00**	**4.32**	**4.6**
FAIRFAX BLVD WEST										
12	L	388	2.1	1.190	109.4	LOS F	1416	1.00	2.94	11.0
11	T	1523	2.0	1.189	99.3	LOS F	1771	1.00	3.17	11.1
13	R	92	2.2	0.089	6.8	LOS A	16	0.64	0.57	32.0
Approach		**2003**	**2.0**	**1.189**	**97.0**	**LOS F**	**1771**	**0.98**	**3.01**	**11.4**
All Vehicles		**7055**	**2.0**	**1.615**	**169.6**	**LOS F**	**3273**	**0.99**	**3.32**	**7.4**

Movement Summary

ROUTE 50 (FAIRFAX BLVD)/ROUTE 123(CHAIN BRIDGE RD) PM PEAK

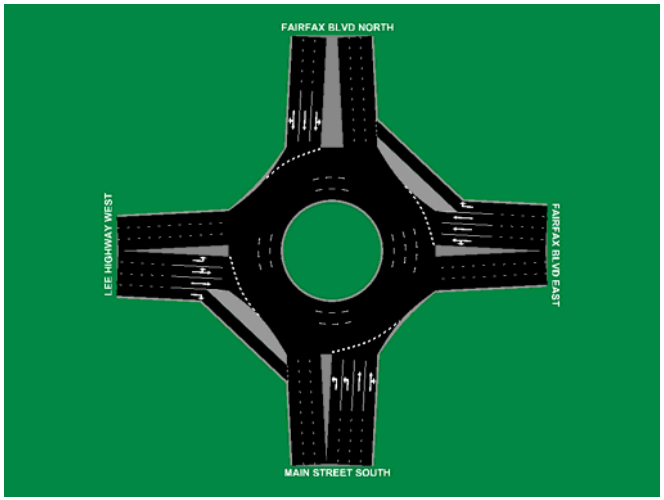
Subtitle

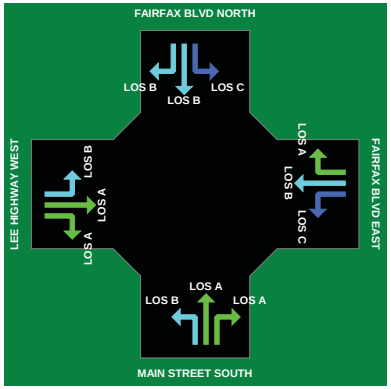
Roundabout

Vehicle Movements

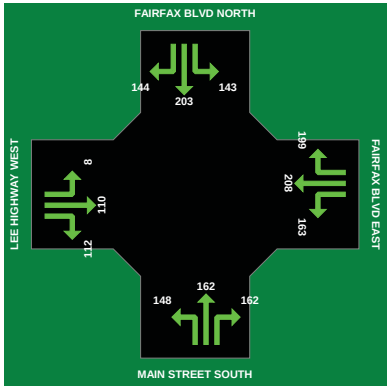
Mov No	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
CHAIN BRIDGE ROAD SOUTH										
32	L	125	2.4	0.824	30.5	LOS C	202	0.96	1.20	23.7
31	T	1032	2.0	0.826	23.8	LOS C	292	0.98	1.24	24.9
33	R	172	1.7	0.239	9.0	LOS A	61	1.00	0.81	30.9
Approach		**1330**	**2.0**	**0.826**	**22.5**	**LOS C**	**292**	**0.98**	**1.18**	**25.4**
FAIRFAX BLVD EAST										
22	L	134	2.2	0.870	26.8	LOS C	267	0.97	1.26	24.9
21	T	1617	2.0	0.869	18.7	LOS B	356	0.98	1.29	27.1
23	R	354	2.0	0.401	7.5	LOS A	94	0.91	0.69	31.3
Approach		**2105**	**2.0**	**0.869**	**17.4**	**LOS B**	**356**	**0.97**	**1.19**	**27.5**
CHAIN BRIDGE ROAD NORTH										
42	L	240	2.1	0.830	25.3	LOS C	198	0.95	1.16	25.5
41	T	1127	2.0	0.831	17.8	LOS B	272	0.97	1.19	27.6
43	R	250	2.0	0.346	8.4	LOS A	78	0.96	0.75	31.1
Approach		**1617**	**2.0**	**0.831**	**17.4**	**LOS B**	**272**	**0.97**	**1.12**	**27.6**
FAIRFAX BLVD WEST										
12	L	388	2.1	0.919	26.6	LOS C	286	0.97	1.28	25.0
11	T	1523	2.0	0.919	18.5	LOS B	375	0.98	1.31	27.2
13	R	92	2.2	0.092	6.2	LOS A	19	0.79	0.55	31.9
Approach		**2003**	**2.0**	**0.918**	**19.5**	**LOS B**	**375**	**0.97**	**1.27**	**26.8**
All Vehicles		**7055**	**2.0**	**0.919**	**19.0**	**LOS B**	**375**	**0.97**	**1.19**	**26.9**

Fairfax Boulevard/Lee Highway





Levels-of-service



95th Percentile Queues

Movement Summary

ROUTE 50(FAIRFAX BLVD)/LEE HIGHWAY PM PEAK

3 LANE RBT WITH RT LANES EAST AND WEST WITH DUAL LEFT TURN LANES SOUTH LEG

Roundabout

Vehicle Movements

Mov No	Turn	Dem Flow (veh/h)	%HV	Deg of Satn (v/c)	Aver Delay (sec)	Level of Service	95% Back of Queue (ft)	Prop. Queued	Eff. Stop Rate	Aver Speed (mph)
MAIN STREET SOUTH										
32	L	1060	2.0	0.597	17.5	LOS B	148	0.86	1.04	28.7
31	T	1124	2.0	0.519	8.0	LOS A	162	0.90	0.76	31.5
33	R	12	7.7	0.520	8.5	LOS A	162	0.95	0.79	31.0
Approach		**2197**	**2.0**	**0.597**	**12.6**	**LOS B**	**162**	**0.88**	**0.89**	**30.0**
FAIRFAX BLVD EAST										
22	L	60	1.7	0.811	26.9	LOS C	163	0.95	1.14	24.9
21	T	980	2.0	0.809	18.5	LOS B	208	0.96	1.15	27.2
23	R	720	1.9	0.682	8.5	LOS A	199	0.93	0.85	31.3
Approach		**1760**	**2.0**	**0.809**	**14.7**	**LOS B**	**208**	**0.95**	**1.03**	**28.6**
FAIRFAX BLVD NORTH										
42	L	416	1.9	0.686	21.2	LOS C	143	0.88	1.10	27.0
41	T	1012	2.0	0.687	13.4	LOS B	203	0.93	1.12	29.8
43	R	10	9.1	0.688	13.2	LOS B	144	0.88	1.06	29.7
Approach		**1439**	**2.0**	**0.687**	**15.7**	**LOS B**	**203**	**0.91**	**1.11**	**28.9**
LEE HIGHWAY WEST										
12	L	36	2.8	0.046	14.8	LOS B	8	0.75	0.81	29.1
11	T	744	2.0	0.491	7.7	LOS A	110	0.86	0.71	31.7
13	R	548	2.0	0.469	6.3	LOS A	112	0.84	0.59	31.6
Approach		**1328**	**2.0**	**0.492**	**7.3**	**LOS A**	**112**	**0.85**	**0.66**	**31.6**
All Vehicles		**6724**	**2.0**	**0.811**	**12.8**	**LOS B**	**208**	**0.90**	**0.93**	**29.7**

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